AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. VI. SEPTEMBER, 1870. No. 3.

[Translated for the American Bee Journal.]

The Foulbrood Question.

The following remarks, made by the Rev. Mr. Kleine, before a convention of bee-keepers in the town of Meppen, province of Hanover, Prussia, present a succinct account of the present state of this subject abroad.

"The question propounded in our programme," said Mr. Kleine, "and which I have been requested to consider, may properly be thus subdivided—first, Has any efficient remedy for foulbrood been devised? and, secondly, What are we to think of Lambrecht's theory?

"I wish I could answer the first interrogatory with a positive *aye*. If I could, I should regard myself entitled not only to your thanks, but to those of the entire bee-keeping community; for foulbrood is confessedly the direst evil that can befall the bee-keeper, and the appearance is, at present, that it is likely speedily to spread everywhere, where bees are cultivated.

"Remedies in abundance have, indeed been suggested, and recommended as efficient and infallible But when we come to investigate them, we seek in vain for any solid reason why curative qualities should be attributed to them; and we usually find that the alleged recovery of diseased colonies can fairly be ascribed to something else than the application of those vaunted remedies. Possibly, too, the real disease,—the genuine, virulent, contagious foulbrood, did not exist, and the boasted cure consisted merely in the apparent arrest and removal of some simple malady which, in the course of nature, would speedily have run its harmless course and disappeared, and with the cure of which the medicaments or treatment employed had, in reality, no connection whatever. How indeed can it be possible to devise and apply an efficient remedy for a disease of the origin and nature of which entire ignorance has still prevailed.

"Dr. Asmusz conceived, some years ago, that he had discovered the cause of foulbrood in a minute winged insect—the *Phora incrassata;* and the Baron of Berlepsch coincided with him in opinion. The doctor supposed that the parent fly deposited her eggs in the larvæ of the bee, which, dying in consequence and putrifying, thus generated the devastating disease. It happens, however, that the Phoridæ do not deposit their eggs in living organisms, but, under the impulse of native instinct, in dead bodies only. Consequently it does not and cannot cause the dreaded disease.

"Again, Mr. De Molitor assigns to it a similar origin,—but instead of the Phora, regards some ichneumon-fly as the perpetrator of the evil—unless, indeed, he regards the Phora itself as an ichneumon. But this notion, too, is obviously untenable, for if ichneumon-flies laid their eggs in the larvæ, those eggs must surely hatch and the insect develop there, at least in its first stages; but on placing a foulbroody comb under glass, and watching it closely, nothing of this sort is found to take place.

"The Baroness of Berlepsch supposes the cause of foulbrood is to be found in the use of movable comb hives, and the various manipulations—oftimes needless—which the facilities afforded tempt the apiarian to undertake. Were this diagnosis correct, the remedy could readily be found. It would only be necessary to discontinue the use of such hives, and return to the ancient fixed comb system, to be safe from the inroads of this pestilence. But alas, it is only too well known that foulbrood existed extensively long before Dzierzon was born, and that it prevails where the fixed comb system is most rigidly adhered to.

"Others imagine that the disease has its origin in malarious vapors, in some kind of fungus, in a diseased condition of the sexual organs of the queen, in an imperfect fecundation of the egg, or even in a noxious state of the fluids of the bee-keeper's body, &c., without, however, by any of these surmises or suggestions, furnishing us with an available clue to a remedy, from the application of which a favorable result might be expected. Obscurity and doubt still involve the inquirer, and he quietly 'gives it up;' while the more practical bee-keeper, perplexed and baffled, finally resolves to resort to the radical remedy of the brimstone pit and the 'parlor match'—thus effectually *curing* his colonies.

"So matters stood in regard to this puzzling question, till, in consequence of a communication from the Directors of the Central Committee of the Hanover Agricultural Society, respecting an alleged cure of foulbrood which Mr. Fisher claimed to have devised and successfully employed, the Hanover Centralblatt opened its columns for further discussion of the topic.

"I had given it as my own opinion that the disease was probably, in most cases, produced by feeding infected honey derived from foulbroody colonies; but that we were still constrained to believe that it had also an independent origin, which would probably be found in some deleterious substance mixed with the nutriment of the bees.

"A reason for this assumption I found in a communication from Mr. Hoffman to the Eichstadt Bienenzeitung, in which he stated that in all foulbroody colonies examined by him, he found most of the pollen in the cells covered by a slimy, fatty substance and the pollen itself in a state of fermentation. I then said that if this discovery be confirmed by further observation and scientific investigation, deteriorated pollen would probably be found to play an important part in the production of the disease in question, and perhaps account for the well known fact that in colonies infected with foulbrood, the larvæ die only after being sealed up. I also expressed the hope that we should have the aid of science—especially of physiology and chemistry—in the further prosecution of the inquiry; as it is only by ascertaining the nature and origin of the disease, that we could hope to obtain the means of effectually counteracting and controlling it.

"We had to wait long for these elucidations, but they have come at last, and we may well be proud that the Hanover Centralblatt contributed so materially to the result so far.

"I now come to the second subdivision of the question—What is to be thought of Lambrecht's theory?

"This theory is briefly thus: Pollen, in peculiar circumstances, and under the influence of heat and moisture, begins to ferment; and the fermentive process is then communicated to the honey. If this fermenting nutriment be now fed to the larvæ, their organism becomes thereby deranged and disorganized, they die and putrefaction follows. Here we find the original source and cause of foulbrood. The detailed explanation of this so simple theory, given with the directness of scientific demonstration, yet in popular language readily understood, is contained in the pages of the Centralblatt. Its correctness is not to be doubted, for the proof of it is clearly furnished by this simple experiment: Expose a mixture of pollen and water to the heat of the sun, or otherwise to a temperature sufficiently high to bring on fermentation, and feed therewith the bees of a colony containing larvæ just hatched, and foulbrood will speedily be produced in the hive. I made this experiment myself in the summer of 1868, and though I felt some misgivings before, every doubt was dissipated by the result obtained, for the thus infected colony might have claimed a premium as a prime prize case of the disease. I here submit to the convention, for inspection, a piece of foulbroody comb thus obtained. The contagiousness of the artificially originated foulbrood is also demonstrated by the fact, that the disease has been communicated from it to several other colonies in my apiary. Other bee-keepers have repeated this experiment with like results; so that there is no longer room to doubt, or to suspect deception.

"The fermented or fermenting condition of the nutritive matter with which the larvæ of bees are fed, is thus, according to Lambrecht's theory, the cause of foulbrood. I doubt much whether this scientifically grounded doctrine will ever be scientifically refuted.

"We have here, accordingly, the point at which the insidious foe is to be attacked, if we would hope for success. This, Lambrecht alleges that he does, and claims that he has devised a reliable method of cure, as shown in the experimental case at Brunswick. To doubt the truth of the statement made by the committee superintending that experiment, would be to impugn the untarnished honor of those gentlemen. But unfortunately, we are not yet made acquainted with the composition of Lambrecht's remedy. For the present, he treats it as a secret, intending to publish it in a pamphlet and thus compensate himself for his discovery. For this, he has been subjected to reproach and abuse. Allow me to express my surprise at this. We find fault with Lambrecht for that which we approve in ourselves and others. The inventor strives to secure to himself the profits of his invention by taking out a patent; and the author indemnifies himself for his labors by procuring a copyright, or accepting a premium from his publisher. I have not hesitated to accept such compensation myself, when the opportunity was properly presented; and others, here, I presume, may find themselves under like condemnation. Why then cast stones on Lambrecht, who, probably, has very valid reasons for imitating our example, for his experiments presuppose a large sacrifice of time and money on his part.

"I will not deny that, for one, I should have preferred if Mr. Lambrecht had disinterestedly published his curative process in a communication to the Centralblatt. For if No. 7 of the volume for 1868 is now out of print, in consequence of the increased demand created for it by his first article on the subject, there is no doubt a very large edition would have been required of the number containing his cure; and what a powerful impetus that would have given to the success of the Centralblatt! But I should have been ashamed to approach Mr. Lambrecht with a request based on calculations so selfish, when I understood that he intended to reserve the information for his own benefit. But there is thus within our reach a secret of great importance and value to all bee-keepers; and since we have no prospect of obtaining a knowledge of it in any other way than by the publication of his pamphlet, I advise you all to subscribe for it and induce others to do so likewise, so that the work may speedily be published, and the veil withdrawn that possibly conceals a matter of vital importance to bee-culture.

"Mr. Lambrecht was requested by the President of the Nuremberg Convention to attend its meeting, and present his theory among the regular orders of the day, for discussion. I felt confident he would comply with the request, and considered that the most suitable mode of bringing his theory to the knowledge of the bee-keepers generally and securing the required number of subscribers to his pamphlet. But, according to the report of the proceedings, the

result was just the reverse. Mr Lambrecht, we are told, *failed altogether!* And how? He was refused a hearing! How this is to be explained, I know not. Heretofore, the Convention was ever disposed to invite and allow free discussion of all questions pertaining to bee-culture, whether of a theoretical or practical cast; and to accept, with enthusiastic applause every new invention or device tending to advance the favorite pursuit of its members. But this I know for certain, that Mr. Lambrecht's theory, despite of this opposition, will work its way, and finally meet with universal acceptance. I therefore beg this respected assembly not to withhold due attention to this important matter, but to contribute all they can towards a full compliance with the stipulations on which the speedy promulgation of Mr. Lambrecht's curative process depends."

[For the American Bee Journal.]

Polanisia Purpurea.

Mr. Editor:—I would like to give the readers of the journal my experience with the Rocky Mountain bee plant *Polanisia purpurea*. In 1868, I had the pleasure of receiving some of the seed from Mr. J. L. Hubbard, then of Walpole, N. H.; and from sixteen plants that grew, I got six quarts of seed. It comes into bloom about the last of July, and continues till frost comes. The bees work on it from morning till night.

In selecting honey-producing plants, it should be the aim of the bee-keeper to plant such as would be of benefit to stock or poultry as well as bees. Now I find that my poultry will eat the seed of the Polanisia in a short time as readily as buckwheat; and there is no plant on my farm that stands the drouth equal to it. At present (July 25th) we are having a very severe drouth and extreme heat, yet with the temperature ranging from 90° to 108° in the shade, not a leaf of the Polanisia wilts; on the contrary, it is making a very rapid growth. Taking everything into consideration, I think it is worthy the attention of bee-keepers.

A. Green.

Amesbury, Mass.

[From the London "Journal of Horticulture."]

Bees in Borneo and Timor.

Having recently perused Mr. Spencer St. John's very interesting work on Borneo, published in 1862, under the title of "Life in the Forests of the Far East," I have made notes of several passages relating to the apian aborigines of that magnificent tropical island:—

Speaking of the agricultural pursuits of the "Sea Dayaks," Mr. St. John says—"They obtain beeswax from the nests built on the tapang tree, and climb the loftiest heights in search of it, upon small sticks which they drive in as they advance up the noble stem that rises above one hundred feet free of branches, and whose girth varies from fifteen to twenty-five feet. Once these pegs are driven in, their outer ends are connected by a stout rattan, which, with the tree, forms a kind of ladder. It requires cool and deliberate courage to take a bee-hive at so great an elevation, where, in case of being attacked by the bees, the almost naked man would fall and be dashed to atoms. They depend upon the flambeaux they carry up with them, as, when the man disturbs the hive, the sparks falling from it cause, it is said, the bees to fly down in chase of them instead of attacking their real enemy, who then takes the hive and lowers it down by a rattan string. The bees escape unhurt. This plan does not appear to be as safe as that pursued by the Pakatan Dayaks, who kindle a large fire under the trees, and, throwing green branches upon it, raise so stifling a smoke that the bees rush forth, and the man ascending takes their nest in safety. Both these operations are generally conducted at night, although the second might be, I imagine, practised in safety during the day."

With regard to the "Land Dayaks" it is stated, that "To the left of the Sirambau are some very fine tapang trees, in which the bees generally build their nests; they are considered private property, and a Dayak from a neighboring tribe venturing to help himself to some of this apparently wild honey and wax would be punished for theft." This is the first hint that is given of bees being considered in any respect as private property, but the following passage would seem to indicate that the domestication of the honey bee is not altogether unknown in the island:—"During the night, our rest was much disturbed by bees, which stung us several times, and Mr. Lowe, with that acuteness which never deserts him in all questions of natural history, pronounced them to be the 'tame' bees, the same as he had last seen thirteen years ago among the Senah Dayaks, in Sarawak. About midnight we were visited by a big fellow, who, our guides assured us, wanted to pilfer; but we found next morning that he had come to complain of his hives having been plundered. On inquiry, we discovered the man who had done the deed. He was fined three times the value of the damage, and the amount handed over to the owner."

During one of his adventurous expeditions up the river Limbang, Mr. St. John found a Pakatan named Japer, who accompanied him, a storehouse of information. He had a thorough faith in ghosts and spirits, and told of many an adventure with them, and of the Antus who caused the death of the wax-hunters, by pushing them off the mengiris or tapang tree. When the unfortunate men, from inefficient preparations, as their companions not keeping up a great fire under the trees to stupefy the bees, are so stung as to let go their hold, the natural explanation is never taken; they fly to their superstitions. Japer's nephew saw one of these tapang ghosts, and managed to keep his eye upon him and prevent him pushing him off, he came down without accident, but without any wax. I suggested that he invented the ghost to excuse his timidity, which Japer thought probable. To-day we passed one of these lofty trees bearing above twenty bees' nests, among them four old ones

white with wax.* As the country is full of tapangs, in which alone do the bees build their nests, the stories of the great amount of wax formerly procured in this district may be true. Why do the honey-bees generally build on one particular tree? Its being the finest in the forest is no good reason, perhaps there is something enticing in the bark. I say 'generally,' because, though I have never seen their nests on other trees, yet I have often come across them in the crevices of rocks."

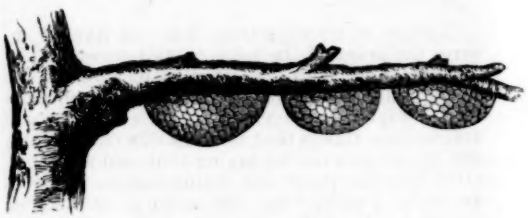
In a subsequent part of his journal of the same expedition, our author says—"I never was in such a country for bees, they everywhere swarm in the most disagreeable manner, and ants and other insects are equally numerous." When on their return and nearly starved, the party had "a very happy find, for while passing under a fine tapang tree we noticed the remains of a bees' nest scattered about, and every particle was eagerly appropriated. From the marks around it appeared as if a bear had climbed this lofty tree and torn down the nest to be devoured by its young below, as there were numerous tracks of the smaller animals around, but whether the comb had been sucked by the bears or not was very immaterial to our men, who rejoiced in securing the little honey still clinging to it."

The party appears only once to have fallen foul of a hornet's nest. The encounter and its results are thus described:—"It was in following the bed of the Rawan that I was stung. Notice was given by the guide to leave the direct path, and we all did; but I suppose some one disturbed the hornets, as they attacked me with a ferocity that appears incredible: many flew at me, but two fixed on my arms and stung me through my double clothing. They poised themselves a moment in the air, and then came on with a rush which it was impossible to avoid. The pain was acute, but I saved my face. I tumbled down the steep bank in a moment, and throwing aside rifle and ammunition, plunged up to my eyes in a pool until the buzzing ceased and the hornets had returned to their nests. Some of my men were also stung; they squeezed a little tobacco juice on the wounds, and they say they felt no further inconvenience. I tried it about an hour afterwards, but it did me no good. I had no idea that the sting of this insect was so severe; my right arm swelled up to double its natural size and was acutely painful; now, on the second day, it is much less so, but as the swelling continues it is impossible to use it much."

That wild bees are exceedingly abundant in the forests and jungles of Borneo may be inferred from the foregoing passages as well as from the numerous references to parties of native "wax-hunters," which occur in almost every chapter of the work. Although no clue is given by Mr. St. John to the identity of the Borneon honey-bee, or any information as to the manner in which it builds its nest, I am enabled in some measure to supply the deficiency from other sources.

Some half dozen years ago I received from Mr. Charles Darwin, the distinguished naturalist, a few specimens of bees named Apis testacea (Smith), together with two pieces of their comb. Although these had been brought by Mr. Alfred B. Wallace, the celebrated traveller and author of "The Malay Archipelago," just published, from the island of Timor in the Eastern Archipelago, I believe them to be the same as those which are indigenous in Borneo, so that there appears little reason to doubt that these are the bees referred to by Mr. St. John. On examination I found them half as long again as Apis mellifica, and their brood comb proportionably thicker. They were in fact, a variety of the magnificent Apis dorsata, which is described as flourishing abundantly throughout the great Indian peninsula, from Cape Comorin to the Himalayas, as well as in Ceylon.

Mr. Darwin subsequently introduced me to Mr. Wallace, to whom I am indebted for the following particulars:—"In Borneo and Timor the wax forms an important article of commerce. The combs hang on the under side of horizontal limbs of lofty trees, often one hundred feet from the ground.



"I have seen three together as above, and they are often four feet in diameter. The natives of Timor I have seen take them. They climb up a tree carrying a smoke torch made of a split creeper bound up in palm leaves, and hanging by a rope from their waist. They cover up their body and hair carefully, but their arms and legs are bare. The smoke directed on the comb makes the bees fly off in a cloud as the man approaches. He sweeps off the remainder with his hand and then cuts off the comb with a large knife, and lets it down to his companions below by a thin cord. He is all the time surrounded by a cloud of bees, and though the smoke no doubt partly stupefies them, he must be severely stung. While looking on from a considerable distance a few came down and attacked me, and I did not get rid of them till I was half a mile from the place and had caught them all, one by one, in my insect net. The sting is very severe. I should imagine that in Timor the dry season answers to our winter, as the drought is very severe and much of the foliage is deciduous. Eucalypti are the most common trees, and their flowers I suspect supply the bees with their honey. In Borneo combs are placed in a somewhat similar manner, perhaps formed by the same species. The only bee I have seen domesticated in the East is one at Malacca, the natives hang up bamboos and hollow logs for it, but it is, I believe, not a true Apis, as it makes clusters of large oval shells of black wax."

I may add that the Timor bee was named Apis testacea on account of its color, which is

* More probably *new* ones.—A DEVONSHIRE BEE-KEEPER.

very light, and is, in fact, the only point in which it differs from Apis dorsata. When some years ago I compared the specimens in the British Museum, I became impressed with the idea that those which represented Apis testacea were nothing more than newly-hatched and immature specimens of Apis dorsata, and so strongly did I urge my views upon Mr. Smith, that I believe I almost induced him to doubt the correctness of his own nomenclature, until he was afterwards assured by Mr. Wallace himself, that they were really mature and fully-developed adult bees.—A DEVONSHIRE BEE-KEEPER.

Management of Bees in Winter.

The following address on this subject was delivered by Mr. E. ROOD, of Wayne (Mich.), at the Michigan Bee-keeper's Convention, held at Lansing, on the 23d of March last. The crowded state of our columns and files at the time it was received, prevented an immediate insertion, and its appearance now will probably be all the more opportune and serviceable.—ED.

If there be no objection, I would like to reverse the order of the time or statement of the subject which I am expected to discuss, as the spring management follows that of the winter.

The winter management, of a necessity, involves some things that must be done in the fall; and let me premise by saying that almost, if not all of the operations and manipulations of bees, are quite simple, when the natural habits and requirements of the insect are well understood, and with a reasonable amount of intelligence and perseverance the object is accomplished. Let me assure new beginners, and those that have not begun, that the honey will much more than compensate for the labor bestowed upon them, as I know of no branch of rural pursuits that, in dollars and cents, pays as well. And the pleasure derived from a study of their nature and habits, will far more than compensate, in a scientific point of view, for all their stings.

In preparing for winter, of necessity it is incumbent upon us to see or learn that they have sufficient food to carry them through until they can procure it for themselves;—say twenty or twenty-five pounds if wintered in a special depository, and twenty-five or thirty if wintered on their summer stands.

We should then remove the surplus honey-boxes as soon as the first hard frost; as, if they remain on, the bees will the next day carry into the breeding apartment all that is not capped over; and I have seldom or never known a swarm but what had enough in the body of the hive to winter on, if they had stored any in the surplus boxes.

Next, weigh one or more empty hives, to which weight add, say ten pounds for weight of bees, combs and bee bread; then the first cool day proceed to weigh every swarm,—*no guessing about it.* Mark the net weight of honey upon the same corner or place on each hive.

Next, the first fine day commence to equalize the amount of honey in the various swarms; if in movable frames, taking from the heaviest and giving to those that require feeding; if not in movable frame hives, the light ones must be fed in the evening with some of the various feeders, and a good swarm will carry from five to eight pounds to the combs in a night. They may be fed on a syrup made of clarified sugar, but the syrup should never, nor should honey be kept, melted, dissolved, or fed from copper or brass vessels, as it has been ascertained that verdigris will cause foul brood.

We have now provided our bees with sufficient food for winter, and why should we not? We provide (or should), a sufficient supply for each sheep, and certainly the profits of a swarm of bees are as great as from a sheep—aye, and far greater—and they do not require one-fourth part of the care and attention.

I know of but one other preparation for wintering. In almost any apiary there will be some small swarms and some destitute of queens. they may and should be doubled up, but no two large swarms should be put together—they will not do well.

We are now ready to put our bees into winter quarters. The exact time for removing them to the quarters cannot be now definitely determined. If there are any small swarms, it will be well to put them in somewhat earlier than the large ones; as there is not as much animal heat, and those upon the outside of the cluster become chilled and perish; perhaps the first of December, as a general rule, will be the correct time.

Now for the winter quarters. If they are wintered on their summer stands, it would be much better if the yard was enclosed with a high board fence, or something to break off the winds. The fly-holes should be nearly closed, so that it will be one-half or three-fourths of an inch in size, that it may not get stopped up with dead bees, also that but a trifle of air may enter, thus preventing much draft, and as upward ventilation is almost absolutely necessary, there should be openings in the top of the hive for the vapor to escape, but the openings should be protected in a manner to prevent the wind from driving into them. There are many ways, as laying on five or six inches of straw and placing the roof on it, or a board and some weight to keep it in place, or the cover to the honey boxes may be filled with straw or some other substance that will absorb all the moisture. This upward ventilation should be closed, say the 15th of March, or after the extreme cold weather is over. Thus I have given you all that seems necessary, where they are wintered on their summer stands.

When they are wintered in special depositories, the preparation is the same, except that no straw or other substance is necessary; but the honey-board must be raised, say a quarter of an inch, or if in common hives, the holes in the top of the hive left open, the fly-hole the same as above, the temperature kept between twenty-five and forty-three by *thermometer*, the cellar or room *perfectly* dark, and when you enter it, do so with a lantern.

I will now proceed to give what I regard as the best form and method of constructing a special depository. Convenience to the apiary is essential; it is as well, and perhaps better if we can, to place it in the edge of a bank—as some

root cellars are made—bluff, or side-hill. The door should be at the lowest side, for the convenience of entrance, as it is difficult to pass up and down stairs with a swarm of bees.

The size of the room will of course be sufficiently large to contain what bees we wish to place therein. Sixteen feet by twenty, inside measure, will hold one hundred and fifty swarms, and leave ample alley room. The place should be dry, there should be a double door, the room *perfectly dark*, ceiling joists and a floor should be laid over head, and eight or ten inches of sawdust, tan-bark, dry marsh muck, or some non-conductor placed on it before putting on the roof. Four pipes, chimneys or tubes, made of ten or twelve inch boards, should run from just below the ceiling through the roof, and be of sufficient length to exclude the light, say eight feet, on the lower end of which there will be a simple slide or valve. Place one in or near each corner of the room. Thus we have the means distributed for the ascent of the surplus heat, and the animal heat of one hundred swarms is quite considerable, and the great difficulty, if any, will be to keep our room cool enough. To jump at the conclusion that a room with thin walls will accomplish it, will not answer; the great difficulty is to have an even temperature. As, if our walls are thin, the rays of the sun and warm air will make the room too warm. In February, 1869, I was under the necessity of doubling the thickness of a ten inch wall on the south side.

We also place a pipe or tube quite around the inside of the room upon the floor or ground (a floor is quite unnecessary, worse than nothing, for it makes a hiding place for rats and mice), this tube may be made of foot boards, and inch holes bored in it, once in two feet, for the equal distribution of the cold and fresh air, when needed. One end of this pipe must pass through the wall, and must have a slide or valve at or near the outer end

If my room was at the bank or hill, the lower side or end will of necessity be destitute of earth banking, and we would make the wall at least sixteen inches, filled as above with some non-conducting substance, and dry marsh muck is equal, if not superior, to almost any other substance, except fine charcoal, and is easily procured.

A house built altogether upon a level surface, with the walls of *sufficient thickness*, say eighteen or twenty inches, will be equally good. The cost of such a house as I have described cannot be great. Most, if not all the labor, can be performed by the apiarian.

This house will be found very convenient for many other purposes in the spring and summer, in the various operations, to wit: in overhauling and examining the bees in the spring, as a window sash may then be placed in the top of one of the doors, and a stove placed within—thus I have one arranged.

When you suspect there may be a material change in the temperature of the room, look to the thermometer; if too cold, close the valves, if too warm open them more or less, as occasion may require; if that is not sufficient, open the door after dark, and close it again before light, and if that is not sufficient, throw in and spread over the floor a few bushels of snow or pounded ice.

Many swarms will be benefited by being set out on their summer stands at the time of the January thaw, or in February, those that are besmearing their hives, that they may discharge themselves, which will cure most cases of diarrhœa, or dysentery as it is called—though there are real cases of diarrhœa, but not often.

Thus we have passed over the most essential points in the wintering of bees. I will now proceed to give some, if not all of the necessary steps in their management in the spring.

It is difficult to give the exact date at which they should be removed to their summer stands, but whenever it is done, it is not at all important that each swarm should be placed on the identical stand it had the previous season, neither is this precaution necessary if set out in the winter.

In removing them from the cellar, it will first be necessary to close up the fly-hole and remove the chip or block from under the honey board—to confine the bees in the hive.

Immediately after placing them upon their summer stands, if housed in special depositories, and perhaps about the same time or a trifle earlier if wintered out, the bottom boards should be cleaned of dead bees and other filth, it saves the bees much labor and no doubt conduces to their health.

As soon as they have become accustomed to their new location, one of the most important operations in bee management becomes necessary, to wit, the thorough examination of the swarm, for five purposes: First, to ascertain if they have sufficient honey to carry them through; of this we may judge with sufficient accuracy from the appearance of the quantity. Be sure to leave them enough, as the breeding season is now considerably advanced. We must also regard the size of the swarm, which will, of course, include the quantity of brood now on hand. Secondly, to see if they have too much honey. This reason is almost equally important with the other; it could be hardly conceived by the novice how it was possible that a swarm of bees could have too much honey. Well, we would like to have you explain that, Mr. Lecturer, says one—I think many. Well, be patient, my friends, and we will make the attempt. First, then, we will suppose the breeding chamber of the hive is the proper size. This involves the question as to what is the proper size. Well, there are various opinions about it; but with some experience, aided by a few simple figures, we may approximate to it. We may assume that a vigorous and healthy queen can and will lay three thousand eggs a day; now, each square inch of comb will contain fifty eggs, and fifty will go into three thousand sixty times; it takes about twenty-one days for the eggs to hatch; now twenty-one times sixty is one thousand two hundred and sixty: this would be a solid mass of comb, larva and pupa; of a necessity, then, we must add to the above one thousand two hundred and sixty, half as much more room, six hundred and thirty inches, making the inside of the hive one thousand eight hundred and ninety cubic inches. It will be well to add say half an inch

more to the depth of the hive, as the bees seldom build combs to within half an inch of the bottom board. Well, suppose the hive is fourteen inches each way (horizontal) we would thus add ninety-eight inches more; this would give one thousand nine hundred and eighty-eight, or for convenience, two thousand cubic inches; two thousand two hundred and eighteen and one-fifth cubic inches are a bushel, which is most commonly given as the proper size of the hive. Now, our figures have given nearly that size, and worked mathematically close, and giving a little leeway, our hive will hold about a bushel. Let us recollect this is the room required for breeding purposes. We added two hundred inches, and will suppose that will be filled with pollen and honey; now, if these premises be correct, we start in the spring with the size of our hive much reduced by being filled with honey, as we have but two hundred cubic inches for that purpose and the bee-bread. Can we now see that a swarm of bees may have too much honey in the breeding chamber? Still we must leave enough at this examination to carry them safe through till an abundant supply can be obtained from the blossoms. Suppose, therefore, we leave from thirty to fifty pounds of honey in the hive, is it not evident we have trenched that amount of space upon the breeding territory? Then, if the season is a good one for honey, this room is constantly being diminished by the bees depositing honey in the cells as soon as the brood leaves, the result of which will be your young swarms will be too small, and by winter the old ones, for the want of breeding room, are too few to raise sufficient animal heat to winter. Even if the proper amount only is left in the hive in the spring, and the season is a good one for honey, the hives should be examined, say the first day of August, and the outside sheets that are filled with honey and have no brood in them, be removed, and empty sheets or frames placed in the centre of the hive that the queen may have more room.

Thirdly. We examine the hive to see if there is too much drone comb (and any is too much in a large apiary) for if you remove all, the bees will find means to raise drones enough, as in a hive with the ordinary quantity there are probably enough for an apiary of fifty or seventy-five swarms.

Fourthly. We examine the hive to determine if the queen is living, and if so, if she may not be a drone layer. The question will be asked by some how we determine if she is living, or is a drone layer. If there is no queen there will be no brood, and *vice versa*, and if the brood be *all* drone, there would be no doubt of her being a drone layer. In either case, the swarm should be doubled up with a swarm that has a normal queen; the drone layer should first be killed.

Fifthly. In performing these examinations it is an excellent plan to transfer each swarm to a clean hive, as the rabbets have often become partially filled with propolis or gum, as are also the ends of the frames covered with it, and sometimes the hive may want repairs.

We have seen that this examination is one of paramount necessity. The better place to operate is perhaps in a room or place with a single window, or a half window is better, and the room should be so warm that the bees will not chill upon the window. It should be so arranged that the bees that gather thereon may be frequently liberated; the weather should be sufficiently mild for them to fly from the place to the hive. A decoy hive should be set upon the stand, with a few pieces of comb in it; the decoy hive should be of the same color as the one being operated upon. An active person can examine twenty hives in a day with an assistant. This examination may be performed out of door at the stands, were it not for the fact that it is a season of the year when the robbers are most persistent. In performing these operations, it will be found advantageous to blow in a little smoke at the time of opening the hive.

We now have our bees in clean hives with plenty of honey—not too much—and without too much drone comb. But perhaps a few queens may have died a natural death during the winter, or there may be some drone layers. In either case, the bees should be put with another swarm. This may done in various ways; the safest, perhaps, for the uninitiated, would be to drive the swarm from the hive without a queen into the other, by first blowing in a little smoke, also sprinkle in a trifle of scented syrup, and then drumming; and after they are driven the swarm had better be removed to a perfectly dark room or cellar say for a week, or remove them to a distance of at least a mile for a week. This removing should be done instanter. An additional precaution would be to place the one hive above the other preparatory to driving, with a wire cloth between them, say for forty-eight hours, that each may have the same scent.

It is often the case that many swarms are small in the spring; then comes the question, what is it best to do with them? I am of the opinion that the better plan is to feed them, to stimulate the queen to breeding. Commencing the 15th of March, give the swarm from three to four tablespoonfuls of honey every day, or every other day, except the days they gather from flowers, will answer; but they must be watched closely to see if they have plenty of honey in the combs for their brood, and they consume much more than we would suspect; as, for illustration, suppose a hive to be filled with larva capped over, can any person tell me how that amount or mass of animal matter can be brought into that form without an equivalent in weight of liquid sweet (honey or sugar syrup) and pollen, for which we substitute in our stimulating process in the spring unbolted rye flour, placed where it will be protected from wind and water. They may be easily enticed to it by placing a little honey in the vessel.

Another method of procedure is to double up the weak ones. Another still is to equalize them by taking a sheet of brood that is hatching from a large swarm and giving it to the small one.

One of these methods is very important, as after all the apparent secret of bee management the greatest secret lies in keeping the swarms strong.

The bees in small swarms are all compelled to stay at home to keep up sufficient animal heat to keep the brood warm, perhaps scarcely gather-

ing honey enough to stimulate the queen to lay; and if she did lay up to her full capacity, there are not bees enough to keep the brood warm.

Another advantage in having strong swarms is to avoid the miller or wax moth.

I lay down the proposition that the moth *never materially injured a good swarm* in a decently made hive.

In this connection, I lay down another proposition, that without some explanation may seem as strange as the one above alluded to, (that a swarm of bees may have too much honey.) I think I may assert that the moth is or may be an advantage. We always act from one or more motives moving us to a particular point. Amongst other things, I stated that the moth never *materially* injured a *good* swarm of bees. Now, one of the requisites of a good one is strength. Let us see if the moth may not be an advantage. Most bee-keepers have had in their yard say at least two swarms of that size that all they could do would be to get themselves into good condition as to numbers and stores for the coming winter, without giving the owner a young swarm or an ounce of surplus honey, and at the same time they were very much exposed to the moth and stood a good chance to be destroyed by them, because there are not bees enough to guard the unprotected combs.

Now, we will put these two swarms together, and see what the result will be; we will have a swarm strong enough to guard against the moth, strong enough to keep a large quantity of brood warm, by which it will be strong enough to throw off a swarm in good season, and if it is a fair season for honey we may expect twenty-five pounds of surplus honey from the mother swarm. And what have we lost? a queen. The comb we will preserve in a cool, dry place, and give them to the young swarm. Has the moth in this view been a benefit?

We have now our hives properly examined, those that need it fed, the honey taken away if too much, the queenless doubled up, the weak stimulated, equalized or doubled up. There are now but few things to be done, the hive should be made as tight as possible with no upward ventilation, the fly-hole opened but a trifle, and as the swarm increases, which we can determine by the steam, or rather dampness, on the bottom board at the fly-hole in the morning, we will enlarge the fly-hole.

We will next place a trough in the centre of the yard and keep water in it, and to prevent the drowning of the bees will cover its surface with corn-cobs, and occasionally exchange them for fresh ones as they become sour in time.

Now we feel pretty sure thus far we have warded off that scare crow, "luck."

I think of but one other duty we can perform for our and their benefit, that is within the task assigned me, to wit, that of placing the surplus honey boxes on the hive. Mr. Quinby, I think is the only writer that tells us the proper time, namely, when the hive is full of brood and honey below. As they only go into the boxes for the want of room below, and not always then, they should not be put on much sooner, as it enlarges the space to be kept warm by the animal heat, *all of which is needed up to that time.*

[For the American Bee Journal.]

Wintering Bees.

MR. EDITOR:—I believe the inventors of all hives claim—each for his special invention—better wintering qualities "than any other hive in use." But many of them, after being tested, prove to be no better than any old common hive, from the fact that they are not constructed on the right principle. When I constructed the hive described in the Journal for July, it was my intention to make it one of the best for wintering bees that had ever been devised; and I have yet to find the man who has seen and examined it, who says it is not upon the right principle for that purpose. If we can have a hive constructed on the right principle for successful wintering of bees, storing honey, and allowing of as much room for surplus honey-boxes as the largest stock needs, it is certainly an improvement over anything yet constructed in the shape of a bee-hive. I claim that my hive combines more good qualities and fewer *bad* ones, than any hive now extant.

When I commenced to write, I did not intend to say anything in favor of this hive. Those who have used it will say enough in its favor. I will now give my plan for wintering bees in it, which I can do in very few words; and it will not take longer to prepare one of them for wintering, than it will to read this article.

First, make the winter passages through the combs. This I do by taking a stick twenty inches long and three-fourths of an inch wide, made sharp at one end, and slowly worm it through the combs, from front to rear of the hive. If a hive be examined, twenty-four hours after this has been done, the bores will be found as round and as smooth as though the bees had made them. Next remove the board from the top of the brood chamber, and cover the frames with any old rug, coat, or woolen cloth of any kind; and, although it is not necessary, it will be found a good plan to remove the sides of the brood chamber, and cover them the same as the top; or they can be covered with cotton cloth, leaving the surplus box holes open as a means of ventilation, and at the same time keeping the bees confined to the combs and from going into the outer hive. I did not remove the woolen cloths from the tops of my hives this season, and the only ventilation my hives have had during the *very* hot weather was through the entrance. There was no melting down of combs as in the shallow form of the Langstroth hive.

The entrance should be closed during the winter, so as to leave only about one inch space between the blocks. A stock of bees will not smother in this hive, even if it be covered up in snow all winter; but the ventilating holes in the cap must be left open during the winter. In most of the hives sent out, I left a hole in front of the brood chambers to make the winter passages through.

In the spring the brood chamber can be lifted off the bottom boards and cleaned of bees and droppings; and I have done this without even disturbing the bees.

Three years ago I gave a plan for wintering

bees in the shallow form of Langstroth hive. Many who tested that plan, have written to me that it worked well. I think the plan a good one, and hope some one who has a copy of it will send it to the editor of the Journal to have it republished. I will guarantee that all who try it will be pleased with the plan.

H. ALLEY.

Wenham, Mass., August, 1870.

[For the American Bee Journal.]

Italian Queens.

I wish to thank the Rev. E. L Briggs for his excellent article upon the permanency and purity of Italian bees, published in the August number of the Bee Journal, although I cannot concur in all his conclusions, nor accept some portions of his theory; but it is on a subject that will soon be of absorbing interest to every bee-keeper.

To the central idea of his article, that our aim should be *perfection*, undoubtedly all will cordially assent, while few will adopt it practically, for obvious reasons. Bee-keepers, as a class, have neither time, taste, nor inclination to attain the highest results in this direction; though they will seek to improve their stock, provided it can be done cheaply and without much trouble. It is well known that a *cross*—all things being equal—invariably improves stock. It therefore follows that the introduction of impure Italians even, will have a beneficial effect and thus help the matter, if for no other reason than simply crossing and mixing the blood.

Mr. Briggs will admit that comparatively few persons will pay $8.00 or more for tested queens to breed from or to Italianize their stocks with. And until such queens of undoubted purity can be afforded at a much lower price than that, the great mass of bee-keepers will continue to regard well marked Italian queens at $2.50 each, as a great blessing, inasmuch as they vastly improve the general status of the bee, even if not quite reaching the point of perfection.

Mr. Alley, to whom Mr. Briggs refers, has furnished me with queens perfectly satisfactory, being as finely marked as any I ever saw, and their workers and daughters are "chips of the old block." Certainly the introduction of such blood will not cause deterioration in all or any of those qualities that a progressive bee-keeper delights in. It is pleasant to have bees gentle and harmless; but when that quality is obtained at the expense of activity in breeding or working, it becomes an unprofitable luxury.

The question that is so often asked—"Are pure Italians superior to hybrids, as workers and breeders?" must be satisfactorily settled by breeders of pure Italians, before bee-keepers generally will accept fully the conclusions of Mr. Briggs.

My own experience has satisfied me that hybrids are far superior to the pure Italians, in every quality save that of gentleness. Possibly my queens may not have been absolutely pure, yet they conform to the best marks as described by Quinby and others. Those of my stocks that are unquestionably hybrid have given the best satisfaction in every respect. Others assure me of similar experience. Will some one explain this fact?

In view of it all, I can but regard a general crossing of Italians and blacks, as of immense advantage to bees and bee-keepers, and I hope and trust that friend Alley will continue to distribute, far and near, by scores and hundreds, those large, prolific and beautiful queens at $2.50 each.

GEO. C. SILSBY.

Winterport, Me., Aug. 4, 1870.

[For the American Bee Journal.]

Queen-Breeding.

MR. EDITOR:—Criticisms *based* on substantial facts, courteously worded, made in a spirit of kindness and a desire to benefit the world, are opportune and of great value. But when made merely for the purpose of "showing off," or of filling up space in an article, thereby damaging the reputation of any person without just cause, based on no facts, and unsupported by even a shadow of proof, they tend to mislead, and are an injury to the author, the person criticised, and the public generally.

On page 38 of the August No. of the Journal in an article written by Mr. E. L. Briggs, is a direct attack on one of your correspondents, who for years has been engaged in the queen-breeding business, and who, by devoting his whole time thereto, is enabled to supply his customers at very low prices. And the only cause given for this attack is that he supplies the bee fraternity at $2.50 for a warranted queen, and has four hundred orders at that price.

Now if Mr. Alley can afford to rear queens and sell them at $2.50, and his customers do not find fault, whose business is it? And is it just the thing for any one to assume that his queens are not pure, without showing the proof thereof? I think not.

As to Mr. Alley and his reputation as a man and a dealer in queens, I will say, in order that the many readers of your Journal who do not know him, may get at the facts, that I have for a long time been personally acquainted with him, and have always found him just and honorable in his dealings. I also know that he takes great pains to obtain the best stock to breed from, by purchasing imported queens, and continually procuring from reputable dealers, such queens as are of known purity, in order to avoid too close breeding. These facts, in connection with the fact that he is in a locality where all the bees, for miles around his apiary, have been Italianized by him, show whether the assumed idea in Mr. Briggs' article has a shadow of foundation. Now, shall any one of the queen-raising brotherhood assume that a man is a sharper who sells queens for $2.50, without proving that the purchasers thereof have been swindled? For one, I answer no! And if I can buy pure queens of Mr. Alley for $2.50, I shall not send to Mr. Briggs, and pay him from $8 to $10, even for his four or more banded mothers.

I have written this article in justice to Mr. Alley, and could if necessary bring any amount of proof to substantiate it; but thinking this enough, I remain always for the right.

J. E. POND, JR.

Foxborough, Mass., Aug. 8, 1870.

[For the American Bee Journal.]

About Italian Queens, &c.

Mr. E. L. Briggs seems to pitch into cheap queen raisers, and Alley in particular (at least so Alley understands it,) although he mentions no names). I cannot let such remarks pass unnoticed. I would have Mr. Briggs understand that I spare no pains to procure the best breeding queens imported into this country. I have paid from $5 to $20 and upwards for Italian queens, and have never as yet found among my purchases when received any queens superior to those of my own raising. My only object in purchasing queens, is to avoid in-and-in breeding. I am very careful to select the largest, handsomest, and most prolific queens to breed from, both for young queens and drones. I do not doubt that I ship queens now and then that are not up to the standard, and so do all other breeders who do not test their queens before sending. But in every case, I will send other queens, or give satisfaction in some way. The stock I now have produce as large, prolific, and handsome queens as Mr. B. or any other man ever saw. Any queen that I send out is worth all I charge for her, even if she has perchance mated with a black drone. I pay the highest figure for my breeding queens, and now have queens of my own raising that I would not sell for fifty dollars. If Mr. B. would like to purchase some Italian queens, and thinks they would be any better by paying eight or ten dollars for them, instead of two dollars and a half, I can accommodate him in that line; and if he has any such queens as he describes, I will take the lot at the price he has stated, viz.: eight or ten dollars. Now here is a chance for a trade! I know that some bee-keepers think that my queens are not worth much, because I sell them so low: but if it will do them any good to know how it is that I can afford to sell at such low prices, I will make it known.

I have all I can do in the summer to raise queens and reply to all the letters I receive; and I find it quite business enough to keep two hundred (200) nucleus hives in full operation. Talk about boasting of orders for four hundred queens! Why I have orders for more than seven hundred on my books, and they are still coming in by every mail. I was expecting to raise and ship one thousand queens this season, but cannot do it. My orders began to come in as early as last December, and one man ordered fifty as early as last March. Nearly all the orders I have received this season came from persons I supplied last season, and their friends who have seen my stock in the apiaries of former purchasers. I have plenty of letters speaking in the highest terms of my queens; and many of them, like Dr. Barnard, say they are much better than those they paid twenty dollars for. Let me say here that I sent Dr. B. his queens last fall, and the first I heard from him since, I saw in the American Bee Journal—it was of course no pre-arranged plan for him to blow Mr. Alley's stock of Italians.

I paid a certain party in June last ten dollars for a queen. A few days ago I received her, and I may safely say I never shipped a queen as poor in appearance. Nor was there any excuse for the party sending me such a queen, as she was raised last season and was taken from a full stock when sent to me. I guarantee to send out just as good queens for two dollars and a half.

I do not want the reader to suppose that this article is intended as an advertisement. That is far from my design; but I feel obliged to make this statement in self defence.

Last winter I read an advertisement in a western paper, from the pen of a high-price queen dealer, in which he said that he did not believe that good queens could be raised and sold for $2.50 Now, the same person has advertised them at a figure even lower than that. I can afford to raise and sell good pure queens for the price I am charging, and mean to do so as long as I can find purchasers for them, which judging from the demand for them, will be some time yet.

I have, within a few weeks, bought seven queens from some of these high-priced queen breeders, none of which are any larger or handsomer than the stock I now have; nor do I believe that their progeny will prove to be any better. Only this morning I received three queens from such a breeder, two of which I returned by the next mail. I do not want any stock of that kind.

I do not know who Mr. Briggs is, nor whether he is "blowing" for himself or not; and I do not understand his object in sending such an article to the Journal as appeared last month over his name. If he intends to build up a trade at the expense of other people by underrating their stock, I, for one, would like to know it.

I have plenty of letters from purchasers, "blowing up" some of these high-price queen breeders; and I presume they have some of the same kind, giving Alley what he deserves and perhaps more than is due to him. But let that be as it may, all I have to say is this—if any man has a queen purchased from Alley, that he does not like, let him return her at once, or ever after hold his peace.

Mr. Langstroth has written to me several times that they never yet imported a queen that would invariably duplicate herself. Who is the best authority on this point—Mr. L. or Mr. B.? I have this information not only from Mr. L., but from other importers also. I know nothing about Morgan mares nor of certain breeds of pigs; but I have several years' experience with Italian bees, and profess to know something about them. Those who breed Italian queens, and charge high prices for them too, will acknowledge that not more than one queen in fifty is as good as those which Mr. B. has pictured in the last number of the Journal; and he may bet a high figure that no worker bee in the country ever showed four bands. This article has grown pretty long, and I do wish Mr. B. would stir one

up when the weather is cooler, and we have more leisure for rejoinder—say next winter.

H. ALLEY.

Wenham, Mass. Aug. 8, 1870.

[For the American Bee Journal]

Bees in Central New Hampshire.

The limited number of bee-keepers that are found in this section of the country is sufficient evidence that the securing of honey is not here regarded as the royal road to wealth. Many a farmer may have some four or five hives, which are but a small taxation upon his time. From them he is furnished with a luxury which if not secured in this manner, probably no money would purchase.

Last year, (1869,) we secured five hundred pounds in boxes—beginning in the spring with twelve colonies. The harvest began on the 14th or 15th of June, and closed the 16th of July. The season was considered by bee-keepers generally in this section of the country, as being a very poor one. But few hives yielded any surplus honey, save those that received extra attention.

On the 12th of November we placed fifteen colonies in the cellar, where they remained till the 9th of April, 1870. In our opinion, proper ventilation is the necessary lesson to learn in order to secure success; and every man should be fully persuaded in his own mind what course is best for him to pursue. We have had some experience with corn-cobs, paper coverings, wire screens, straw mats, and old carpets. With us, the last of these articles proves to be the most satisfactory.

Thirteen colonies passed the five months incarceration and came out fresh and fair. The remaining two nearly failed us, as we attempted to have them live without much change of air. Those hives from which we removed the honey-boards and covered the frames with two thicknesses of good woolen carpets, all came out in the spring beautifully neat and clean. We shall anticipate the same favorable results for the coming winter.

As the surplus honey harvest for 1870 has already passed, we can begin to count our actual gains. Comb-building began about the first of June, and ceased the first week in July. Since that date very little honey has been deposited in the boxes, even when the bees were furnished with nice frames of comb. The white clover blossomed very profusely, and ripened rapidly, and the bees were thus soon deprived of their largest and best harvest field.

Thus far we have secured somewhat over four hundred pounds of No. 1 honey, and shall probably realize enough more to make *five hundred* pounds, when all the boxes are removed and the hives taken up that are not wanted for winter. Thus far we have not succeeded so well as we have wished in combining colonies. We would not destroy any with brimstone, because that is so very unkind; but when we add colony to colony many bees will kill each other. Tobacco smoke and fragrant waters have at times failed to produce harmony of feeling. Perhaps it would be better to sell the colonies we do not wish to keep.

We have, however, reason to be thankful for the sweet blessing we have already received, and are also thankful that our friends, west and south, are having such bountiful returns.

Dear Editor, we have just returned from a visit to the school. The scholars were engaged in reading their themes, it being Saturday afternoon. Among the many subjects, one little girl had selected the Honey Bee. It interested us so much that we have taken the liberty to send you a copy, that you may see what one of our little Shaker girls, nine years of age, has written

ABOUT BEES.

"I love bees, because they make honey; but I do not love them sometimes, because they sting me, and that I do not like, though I like their honey. I have felt a sting from a honey bee, and I never want to have one again, for I know how it feels. It smarts well, indeed it does. A bee is like a little girl, because it does good when it wants to, and when it does not it will sting you. Now, scholars, I will just tell you not to 'flict a bee, if you don't want it to sting you. It is like a girl, for if you 'flict her, she will be unkind to you, and you must not 'flict her. This is all I have to write about the bee."—C.

The Journal as a welcome visitor arrives while we are engaged writing this communication; and the pages tell of great and precious treasures. As time passes on we hope to be able to write of more bountiful harvests. We have in anticipation the simon pure Italian Bee, to take the place of our blacks and hybrids; and extended fields of Alsike clover, instead of the antiquated red. In that day of bounty and beauty, we shall hope to write temptingly to our worthy editor.

Respectfully,

H. C. BLINN.

Shaker Village, N. H., Aug. 1870.

[For the American Bee Journal.]

Natural, Prolific, Hardy Queens.

PART 2.

(*Continued from July Number, page* 11.)

In early spring, or at any time desirable, proceed to stimulate a selected colony with liquid feed. "Warm syrup or strained honey, is the best for the purpose;" placing alternately empty combs or combs full of brood, from other hives, until your hive is full; or by the removal of one or more colonies, on each side of the selected one, the worker bees from one or more hives, can be thrown into the selected hive, and so stimulate the swarming fever or impulse. Proceed now as recommended in the July number, page 11, when the bees will commence building queen cells. The bee-keeper will thus secure from ten to sixty queen cells per week. During my experiments, each weekly robbing only stimulated the bees to greater exertions to secure a queen. Proceed thus until the desired number of queen cells are secured, or the bees swarm. If they should swarm before a sufficient number

of queen cel's are secured, and it is desirable to still breed from the same queen, secure her and introduce her to a colony that has not swarmed, and proceed as before. Or, better still, introduce her to a colony making preparations to swarm. Before introducing her, destroy all queen cells that have eggs or larva in them; then cell building will proceed as before. A swarm under the swarming impulse will communicate it to a strange queen introduced to them; or a queen under the swarming impulse, "and not satisfied," will communicate it to any populous colony to which she may be introduced.

JOHN M. PRICE.

Buffalo Grove, Iowa.

[For the American Bee Journal.]

Natural and prolific hardy Queens.

We are all more or less disposed to regard our own ideas as indisputable.

Mr. Quinby for example, praises his new hive, and his queen yard. I have experimented with both, and both are now in my barn, waiting to be split up for kindling wood.

Mr. John M. Price, in the July number of the Bee Journal, condemns all artificially raised queens. But *rassurez vous*, friend queen-breeders, I come to prove to friend Price, that he has misconceived the reason of his bad luck in raising artificial queens.

When I commenced to introduce Italian bees in my apiary, six years ago, I received from one of our best queen-breeders a very nice looking queen. She was very yellow from the waist to the tip of the abdomen. Well, I raised a number of queens to get drones, and next season I raised some more, from the same queen, to replace the misallied queens. But lo, one-fourth of my young queens were either crippled, or drone laying, or laying non-hatching eggs. Yet these queens were as yellow as their mother, and it seemed as if the brighter they looked, the poorer they were.

Then my first imported queens came. They were not yellow, but dark. The first rings of the abdomen were leather-colored, the last were entirely black or nearly so. I wrote to Dr. Blumhof, reproaching him for having sent me so dark queens. He replied that all the healthier queens in Italy are dark, and that it was well ascertained there, that the light-colored queens were not so good as the dark. The light-colored queens, added the Doctor, seem to have the chlorosis. Prof. Mona told the same thing to Mr. A. Grimm, when he was in Italy. See *American Bee Journal*, vol. III. From this we can guess that the selecting of the brightest yellow queens for breeders, is one of the causes of the failure of the queens raised. But in-and-in breeding is another, and according to my experience, a main cause of weakness.

As soon as my first imported queens were on hand, I commenced raising queens from them, and from that time forward I raised artificial queens every year from newly imported queens. Those queens mate with drones from queens of the preceding year's importation, and so on. I do not care for the color of these queens, but not one of them is crippled or proves to be a poor layer.

My five best stocks this year, all have artificial queens. Three of these queens are with swarms of last year. I hived them in one of friend Price's hives. These swarms are better than the three original stocks they came from, though these latter have raised natural queens in the height of the swarming season, as friend Price prefers they should. The five stocks referred to gave me from seventy to one hundred pounds each, of box honey. I suppose I should be thought very *exigeant* if I were not content with such results, in so dry a season as this.

Why does friend Price imagine that artificially raised queens are not so good as natural ones? Probably, because the bees, in order to obtain queens sooner, chose grubs already several days old, instead of selecting newly laid eggs, from which to raise queens. I have watched that very closely, and could see no appreciable difference. A stock rendered queenless will raise queens maturing at different periods, some hatching in from nine to twelve or fourteen days, and sometimes not till sixteen days after. If the above theory were correct, the earlier hatching queens should be the poorer, for they come from grubs three or four days old. Yet such is not the case—those queens are as good as any.

If that theory proved to be true, it would still be an easy matter to prevent the evil results apprehended. We could destroy the two or three first-capped queen cells; or force the bees to raise queens from the egg, by a method far more easy than friend Price's. Insert in your chosen stock a frame, containing empty worker comb, placing it between two frames containing brood. In three days, if the bees find honey in the fields, the cells of the worker comb will be supplied with eggs. Then remove the queen and all the brood combs, except the one containing the eggs. The bees will thus have eggs only from which to raise queens, and *all* your young queens will necessarily be started *ab ovo*. I guess this method is as good as, and more simple than, that of friend Price.

I am not a queen-breeder. That business does not suit me, for it is a source of too much vexation. I have repeatedly imported queens, but I lost money and suffered so much in that business, that I think my sufferings will pay for all my sins in the other world. I am thus altogether disinterested in this matter of breeding queens.

On this topic, my advice to apiarians is—

1st. Do not look for yellow queens, for they are not as good as dark ones.

2d. Take care to avoid too close in-and-in breeding.

Let us also remark, that many bee-keepers find that the half-blood Italian bees, are better than the pure ones. Why? Simply because the in-and-in breeding the race of their queens was subject to for some generations, was broken by the alliance with black drones. But the alliance of the Italian queens with Italian drones remotely bred, would doubtless give as good

progeny, while preserving the purity of the stock.

Let us remark also, that Nature in ordering for the queens the wedding flight, obviously had in view the avoidance of in-and-in breeding.

3d. Choose the colony having the purest queen, and the most fertile, from which to provide the queens cells, and distribute in small nuclei when sealed No matter if the queen is dark. In good seasons the queens raised in small nuclei are as good as those raised in full stocks.

CH. DADANT.

Hamilton, Ills., July 24, 1870.

[For the American Bee Journal.]

Artificial Queens.

In the July No. of the Journal, Mr. John M. Price contributed an article on "Natural, Hardy and Prolific Queens," which was no doubt his conviction of the truth of the matter at the time; but as it does not agree with my experience, I will give the other side of the question.

If I understand his theory, it is that queens reared in stocks deprived of their queen when not under the "swarming impulse," are smaller, less prolific and shorter lived than what are termed *natural queens*. I am fully aware that Mr. Price does not stand alone on said theory, and yet I believe it to be an error.

For the sake of distinguishing, we will state that queens bred in full stocks from which the mother queen led forth a swarm, or queens which were *started* while the old queen remained in the hive, are *natural* queens, and all others *artificial*. I have both kinds in my apiary, and have had for several years, and can see no difference in their size, beauty, fertility or longevity. I have repeatedly kept artificial queens until they were three years old, and had one very prolific queen which died in March last, being then three years and nine months old. I left her as an experiment, to see what age she would attain; but my practice is to remove queens in their second or third year. Of course a few die before they are two years old, for they are not exempt from the ills that bee "flesh is heir to." But that four or five in succession should pass off the stage of action in a single stock in one season, is something before unheard of. I do not know what effect brother P.'s revolvable, reversible, double-cased hive *might* have upon the tender life of a young queen; but it seems to have been most disastrous, for we have no such work here in the old Keystone State.

It is a matter of very great importance in the success of an apiary, that our stocks are supplied with the *right kind* of queens, and in order to effect this desirable result, something more is necessary to a full understanding of the subject, than simply to know that bees, when deprived of their queen, will attempt to supply her place. I find little difficulty in rearing *fine* queens, with the following conditions: 1st. a suitable queen mother; 2d. fair weather and good pasturage; 3d a full stock, in which honey and pollen are abundant (not a nucleus where starvation stares them in the face). It is a settled point with me, that the production of queens is a matter wholly under the control of the worker bees; and we lack evidence that a queen *ever* lays an egg in a royal cell. If the bee is guided by instinct *alone*, and the production of a queen depended on the depositing of a *peculiar* egg by the queen in a royal cell (an egg, differing from the worker or drone eggs), it would follow that, on the loss or removal of the queen when no such eggs existed in the hive, no young queens could be produced.

Small queens may be produced in nuclei where the requisite food is limited, and where from want of bees the larva is exposed to repeated changes of temperature, which is detrimental. When reared in full stocks in times of great scarcity, nearly the same results follow.

There is another important point, namely the *proper age* for the mother bee. In breeding all our domestic animals, regard is always had (and wisely we think) to the age of the parents. It may be thought that the life of the bee is so short that it would allow but little latitude in this direction; but it should not be forgotten that the queen usually lives three and sometimes four years, during which time there is doubtless a period of fertility and hardiness, or power of endurance, not common to the whole of her life. Just what that period is, I am not prepared to say; but the rapid advancement of apiarian science will doubtless solve the problem. I am satisfied, however, that queens bred from *young* queens are not equal, in several desirable points, to those bred from mothers a year old. In experimenting with black bees, I became satisfied on this point several years ago. I have never known a *young* black queen, after becoming fertile, to lead out a swarm, no matter how populous the stock might be; and indeed apiarians have considered it the best method of preventing swarming, in order to secure surplus honey, to remove the old queen and install one of the current year. (It is ahead of Quinby's queen yard). We reason from this, that their instinct teaches them that they are *unfit* for queen mothers. This would not, perhaps, hold good in the high temperature of southern latitudes, which tends to the earlier maturity of all animal life. With the Italian bees it is somewhat different, for young queens produce drone eggs, and they do sometimes lead out swarms, yet they are not so liable to do so as older queens.

Mr. Aaron Benedict tells us he produced six generations of queens in a single season, but does not give us the result, further than that he thought he improved his bees in color.

I am not surprised that the men who raise queens from March to October, have cheap queens and sell them by the hundred. But I am one to say that no genuine lover of our pets who duly considers consequences, would proceed thus. And now, Mr. Editor, I wish to say in conclusion, that of my 125 queens about one-fourth are *natural* and the balance artificial queens, and if Mr. Price, or "any other man" will, upon examination, decide correctly, by size or fertility (amount of brood), which are of the former and which of the latter class, he may

pick out ten as large and yellow queens as he *ever saw*, and I will make him a present of the same, and will warrant that, if artificial, they shall be as productive as he wishes them.

NB.—I have no cheap queens for sale.

WILLARD J. DAVIS.

Youngsville, Pa., Aug. 8, 1870.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL:—That flood of honey that was driving us so, when we last wrote you, has ceased, and we are having a resting spell.

About the 18th of July the basswood failed, and we were obliged to desist, mostly on account of the neighbors' black bees desperately attempting to rob our hives when we opened them. In fact, the upper stories of our Langstroth hives are all full now, but before we can empty two hives the black bees are so thick as to threaten demoralization to our whole apiary. Though the Italians will sometimes sting a pint of them to death around a single hive, not an Italian can be found among the slain.

In spite of all this, to which we have repeatedly called the attention of others, many are busy in accusing the Italians of driving the innocent common bees out of the land. One neighbor in particular, who cannot afford to take the Bee Journal, has been very busy in telling how our Italians have taken all his surplus honey, and had he not used *great* care, they would have carried off all his honey, hives, bees and all.

It was in this way. He came to us one day, quite excited, saying that our Italians were robbing his bees at a great rate—even some new swarms in movable frame hives that we had let him have, (not to mention several hours' verbal instruction and the attempt to answer all questions pertaining to bee-culture at once).

"But that is impossible," said we.

"Can't you believe me when I tell you so?" inquired he, angrily.

"We will go with you and see."

On the way the conversation was resumed, thus:

"You are sure you left no hives open, nor anything sweet around?"

"Nothing of the kind."

"When did the robbing commence?"

"In the morning."

"Have you taken off your surplus honey yet?"

"Took it off this morning,"

"Where is it," stopping in our walk.

"*In the orchard, on a table.*"

"Covered up?"

"No, I left it open to let the bees go out. The boxes were full of them, and I could not get them out."

"Are they there now?"

"Yes."

"Now, C——, why in th—— did you not do as we were very careful to tell you, and put the honey in a large box with a white cloth spread over it, to be turned over every hour or two?"

"Well, it was too much trouble, and I did not suppose it would make much difference."

Of course we found boxes that had held about forty pounds, empty, and oh, such music! There *were* Italians there too, but we estimated nine-tenths black bees to one-tenth yellow-banded ones. Without giving the particulars, we may say that we have since heard that our bees had robbed him of sixty, and then eighty pounds, and we don't know what it will amount to in the end.

The whole quantity of honey taken out by us this season, is now six thousand one hundred and sixty-two (6,162) pounds. Of this we sold over two thousand (2,000) pounds, in June and July, for thirty cents per pound, jars and all. The jars do not cost us as much, in the end, a boxes.

How does that figure, in comparison with box honey?

Besides this, our forty-six (46) colonies have been increased to sixty-four (64); and as the upper frames are all full, and we have more bees than the hives will hold, we propose to raise queens this fall and make swarms of the upper stories, perhaps eighteen (18) more.

How many of our co-workers in the melextractor field have had trouble with heavy new combs breaking down in hot weather? Well, listen to our plan of putting them back. Throw away your splints, wires, strings, &c., and simply lay all the pieces of comb, full of honey or not, on a board the size of your frame; put the frame over it in place, and then set the whole in the upper part of some hive over night where the bees have access. In the morning turn the whole up in proper position, and slide your board away, and as soon as the bees have repaired that side too, it is ready for the melextractor.

Mr. Price says Novice's feeder will not answer for thin syrup. We are afraid he has not tried one. Use new strong cloth, and there is no trouble at all in feeding maple sap or even pure water.

Why is it that we can never have any success in trying to build up a stock by feeding? For instance—We commenced putting the cappings, after being drained, strainer utensils, &c., in the top of a hive to be "licked off." As the hive was handy, we kept them busy, and one other, most of the time. Do you suppose it built them up? Not at all! While other stocks were bringing home from six to eight pounds a day, and building comb rapidly, these two could not "lick up" half that; and, further, would build no comb at all until we stopped their "rations" and saved our "trash" until the honey season was over. NOVICE.

August 9, 1870.

Colonies that are overstocked with honey in August, should have some of it removed, either by the honey extractor or by sliding off the caps and laying the combs on a dish, to allow the honey to drain out of the cells of the sides alternately. When thus partially emptied, the comb should be returned to the hive.

[For the American Bee Journal.]

Bee-culture—East and West.

MR. EDITOR:—I think the time has fully come when your correspondent "NOVICE"—that notable personage of whom we have so often read, and whose plans and acts have so often fired our brain with new resolutions and determinations to at least *try* to "go and do likewise"—should, hereafter and evermore, drop that simple title, and sign himself ADEPT, EXPERT, or some other name a little more suggestive of the manner in which he seems to "swing things" of late.

FIVE THOUSAND (5,000) pounds of clover honey, in about one month, from forty-six (46) colonies of bees! That will do! Let's all go west. No use in trying to raise honey here any longer!*

Why, Mr. Editor, in our locality this is simply impossible. That amount of honey is not to be had within the flight of our bees. Still, we seem to have flowers enough. Is the country overstocked? There are probably not more than 150 swarms, our own included, within a circle of one mile from our place. All of our pastures seem covered with white clover in its season; and it lasted, in many places, this season, until buckwheat came into bloom. The old raspberry is said to be an excellent honey producing plant, and its cultivation for bee pasturage is often recommended. There are hundreds of acres of it, within the flight of our bees, already covered with this plant. Basswood grows wild here, to some extent; and probably there are one hundred trees near enough to be visited by our bees. Buckwheat is also grown considerably—say fifty acres, this season, within easy reach. Aside from this, there are many scattering flowers in bloom at different times, from which honey can be extracted. And yet, of late, it is not one year in five that surplus honey is obtained from any other source than buckwheat.

I have this season increased our number of colonies from thirteen to twenty-nine, wholly by artificial swarming; but shall expect no surplus of any consequence.

While walking through a pasture field one day this season, where bees seemed to be working freely upon white clover, I undertook the job of watching a bee, in order to ascertain how many clover heads were visited by her while collecting one load of honey. Selecting a bee that looked quite empty and had no pollen on her legs, I commenced the count. How long she had already been there, I, of course, did not know, but I kept my eye upon her until she left the *five hundred and eighty-second* clover head. Then she flew over some weeds, and I lost sight of her. Whether she then left for home, or not, I do not know. The time occupied by her in making this number of visits, was just one hour. Now, I do not think that this shows a very bountiful yield of honey, even though plenty of flowers exist. This bee visited the same clover head several times, while I was watching her.

If it was not for our fall pasturage of buckwheat, as slim as it is, bee-keeping would, in this section, be "played out," as more honey is usually obtained from this, than from *all other sources combined*. It may be different in the western and southern parts of the State; but, so far as I am acquainted, I certainly think Pennsylvania is not the best place in the world for producing honey.

I. F. TILLINGHAST.

Factoryville, Pa. Aug. 10, 1870.

* No, let us *not* all *go west*, but rather let us have NOVICE *come east*—retaining his time-honored name the while.

What was the average annual yield of honey, per hive, in Novice's locality, when he began to keep bees? What were his surroundings *then*, as regards bee pasturage? and what are they now? If improved, are they so proportionately to the increased quantity of honey obtained? Would anybody *then* have believed it possible, by any means that could be devised, to secure, in any apiary, 6,162 pounds of surplus in four weeks, or five times four, from the area of bee pasturage within the range of the bees' flight, taking the town of his residence as the centre?

Now, if we mistake not greatly, the locality in Pennsylvania, as described by Mr. T., furnishes quite as ample pasturage, *naturally*, as that visited by Novice's bees. Probably an unprepossessed observer, noting appearances or indications in each, would give the Pennsylvania locality the preference; and, very likely, Novice himself, at the outset, had he been called on to choose, and been free to select, would have so decided. Whence then the difference in the present results? Let Novice come east, and we shall see. We do not propose that he shall emigrate hither *in propria personæ*; no, but that his beekeeping *spirit* shall be imported. Let his mode of management be investigated, adopted, applied, and carried out in its spirit and to the letter. Then, if the result be not equally good, it will be early enough to attribute the shortcoming to some natural or climatic inferiority.—ED.

[For the American Bee Journal.]

Form of Hive, and Feeding Bees.

I object to a low and flat shape of hive, for reasons which I shall assign. I will first state, however, that a hive of bees without provision for the retention of animal heat, is as helpless as a new born babe without raiment. Take, as an example, a hive twelve inches square, containing an oblong square perpendicular, and the frames to suit in size and shape. Your combs say eighteen inches in depth perpendicular, and twelve inches wide. The bees, in order to hatch brood, as the weather becomes warm in the spring, will cluster at the larva end of said combs, and keep up the temperature from bottom to top, because of two combined reasons, the combs being the long way perpendicular, and the natural tendency of heat being to rise, it ascends throughout the entire length of the combs, and thus the proper temperature is attained throughout the hive. It is a settled principle too, that a given quantity or number of bees can produce animal heat only sufficient in amount to rarify the air in a given space to a given temperature. Take, for example, a low flat hive, with combs say eighteen inches long horizontal, and nine inches deep, the hive being twelve inches wide, the same as the other. Now remember the principle just before stated. The bees will collect at the front end of the comb, and the animal heat, as generated, will ascend the same as along the combs in the other hive, which are eighteen inches deep; whereas these are only twelve inches deep. Is it not obvious that here one-third of every comb towards its rear end is entirely lost to the bees, so far as the early production of brood is concerned, because of the shape of the

combs and the natural tendency of the heat generated to ascend? If the bees (being the same in number in both hives,) were spread out at the bottom of the combs in the last mentioned hive, the full size of the hive, the cluster would be twelve inches wide and eighteen inches horizontal. Then, on the principle that a given number of bees can generate only a certain degree of heat in a given space, they would fail to bring about the proper temperature in any part of the hive; and the result would be that they could not produce any brood. But allow them (as they will) to contract the size of their cluster, and you find that there is nearly one-third of each comb not used by them in the production of brood. Hence we find in the communications of bee-keepers such remarks as these—"My bees swarmed out of my common box and log gums earlier than they did out of my patent hives." But universally we find in such cases that their patent hives are low and flat in shape. We have used such hives, and know by experience the truth whereof we speak; and, fearless of successful contradiction, we proclaim that the time is not far distant when the practical bee-keepers will adopt the shape of from a square to an oblong perpendicular, the oblong being preferable. We once were of those who thought there could be no difference in the mere shape of a hive, but justice to the true principles of bee-keeping compelled a change of opinion.

There is still another reason why bees should have a hive long up and down. In cases of long continued extreme cold weather, the bees cannot move in a lateral direction to obtain food. But the warmth of the bees will aid them in obtaining it from above, from the fact that their warmth will ascend and keep the frost melted at a greater distance from the bees above them, than on the sides. And, further, when spring came, or in the month of April, my bees almost always became nearly extinct in the low flat form of hive.

Now, in conclusion, let me add some remarks on *feeding*. There is a principle in the feeding of bees that is truly astonishing in its effects. They may be fed in sufficient quantity to cause them to fill all the empty cells and thereby work a complete destruction of the colony, if the owner fails to remove some of the honey out of their way. Or they may be fed in such proportions that the prosperity and increase of the hive will be somewhat like the rolling of a snow-ball—the longer and further it rolls, the greater its magnitude becomes. The queen has the ability to deposit from 2,000 to 3,000 eggs every day in the height of the breeding season; and if bees are then excited by finding liberal supplies of honey in the flowers, yet not in such abundance as to cause them to fill the hive to overflowing, brooding and rearing young bees will proceed most rapidly. But if there is little honey or none yielded by the flowers, and the bees remain idle for some length of time, the queen will cease depositing eggs; while on the other hand, if the bees rapidly fill nearly all the cells with honey, the queen must necessarily cease laying, for want of room to deposit eggs.

Bees seem to have three periods of probation. The first twenty-one days of their existence are passed in the cell; the next eighteen or twenty one days they spend in the hive mainly, nursing brood exclusively, except when engaged at times in building or repairing comb; the next period is devoted to assiduous outdoor labor, and varies from forty to fifty days, in the busy season of the year.

Early and continued stimulation to activity, by feeding the bees, causes the colony to become strong in numbers. If therefore we wish for handsome profits from the labors of the bees, we must have them in great numbers, at all times in the hive. If we expect great quantities of honey from weak colonies, we are doomed to disappointment. In almost every locality there is a time, during the spring or summer, when bees cannot gather nectar from the flowers. Such spells are sometimes prolonged for months; and in some years, in Iowa, in the month of June, the writer has known colonies to starve to death. In such times of scarcity, the bee-keeper should always be on the alert, and begin feeding only in sufficient quantity to produce activity in the hive. It frequently occurs that bees use up all the unsealed honey in the hive, and almost stop brooding. They appear to be reluctant to open their sealed honey. It seems that there is a principle at this point which we have not been able to grasp yet. I think that as a rule, if bees run out of unsealed honey in the spring months, the keeper should, from time to time, shave off the capping of some of the full cells. This, I think, would answer the same purpose as feeding, by exciting the bees to activity. It should be practiced in all cases where there is plenty of sealed honey in the hive, in the forepart of the season; and feeding only to a limited and small extent, when the bees have used up their unsealed supply. In fact, feeding should never be resorted to, while the hive contains plenty of sealed honey. Better uncap some of it.

It is not by any means desirable to have a hive in the height of the breeding season, with the cells so stored with honey that the queen is unable to deposit eggs to the full extent of her powers. Better extract some honey, even if you have to return it again by feeding as the season advances, thus keeping up the activity of the colony.

There are many attempts to systematize bee-keeping. Some ideas communicated through the Journal prove highly serviceable. Others drop without effect, perhaps, except that they set bee-keepers to thinking, and sometimes to experimenting, which is useful, too, if it be not indulged in at too great cost.

J. W. SEAY

Monroe, Iowa.

Practical gardeners may find the management of bees, for their employers, quite a lucrative part of their profession.

When a colony of bees has become hopelessly queenless, then, moth or no moth, its destruction is certain.—*Langstroth.*

"Bees work for man, and yet they never bruise
Their master's flower, but leave it, having done,
As fair as ever and as fit for use."—*Herbert.*

[For the American Bee Journal.]

Bee Letter from Middle Tennessee.

Some weeks since, in company with a friend, armed with a pint of strained honey and a bee-box, we started for the edge of the cedars, distant from my apiary, in a direct line, not less than 2½ miles, where we found bees foraging. We boxed and coursed many, but found none that did not belong to my apiary. It was a very warm day, and being wearied, without pushing out a mile or two further, we returned home, to renew our hunt in the fall.

All the trees I ever saw, having bees in them (and I have seen many) had the entrance hole or crack on the south or southeast side.

Native queens of colonies five miles distant from Italian stocks, in two instances that I know of, mated with Italian drones. And in this connection, speaking of distances, I will mention the reception through the mail of two Italian queens, accompanied by about one dozen workers each, from Wenham, Massachusetts. Look on the map, and you will see it is a long distance from here.

Very little surplus honey has been stored here this season, on account of continuous rains during the spring and summer. Late swarms, not fed, have *gone up*. I have endeavored to keep my bees breeding, giving them repeated small quantities of honey, and have succeeded in doing so; and buckwheat being now in bloom, I hope to obtain a dividend for my outlay and trouble, leaving enough for the worthy laborers when nature shrouds herself in snow.

This is a great country to raise bees in, and I would think more of them if they would swarm less and store more honey. But swarm they will, and they cannot be kept from it. Breaking up an old hen from sitting when she has fairly made up her mind to sit, is an easy job compared to keeping bees from swarming in this section. Swarming commences in Middle Tennessee about the 20th of April, and becomes general about the 5th of May. These new swarms often cast a swarm in thirty days. Swarming is also frequent in August if the season be a good one, Our honey harvest is divided in two seasons—the spring, embracing April and May; and the fall, embracing August and September. Very little honey is stored outside those two dates, except perhaps in the month of March, if the spring is forward and fruit trees come in bloom; and, in the month of October, if we have a favorable fall and frost is delayed. There has been no fall of honey dew this year.

Friend Novice's allusion to air castles in his communication in the Bee Journal for August, *struck our flint*. We read his communication to our better half. "Don't believe a word of it! Do you think that's so?" Exclaimed she. "I do. I have been following that Novice in print some time, and always found him truthful," Here's what's the matter. A spruce old aunt was at our house a few days since, and something was said about new dresses and the fall styles, when our better half broke loose with—"Don't expect to have anything new this year. Everything we've made this year has been spent for bee-gums and paints; and now the upstairs is stored so full, there's no place for old carpets and lumber. There's never been any money in that here, yet, and I don't believe there ever will be," &c., &c. H.

Murfreesboro, Tenn., Aug. 8, 1870.

[For the American Bee Journal.]

That Shallow Form of Hive.

MR. EDITOR:—I see in the July number of the Bee Journal, page 9, that Mr. C. Rogers is out on "the shallow Langstroth Hive." Mr. R. and *my old friend* Gallup are the only persons that I now recollect of, who complain of the shallow form of hive, when wintered in a house or cellar. Mr. Rogers says it is not a "good" hive "for the six or eight weeks between the winter and warm weather," and leaves it thus, without telling us why it is not. For my part, I cannot see what the shape of the hive has to do with the loss of bees in early spring. All bee-keepers say that the bleak winds at that season destroy a great many bees, regardless of the kind of hive they may have been in. All the proof Mr. Rogers gives that this form of hive is bad in early spring is, that "he has sometimes *thought* that his hives contained *less* bees after being out a month or two, than when first put out." Well, suppose it is so, is that the fault of the hive? Every experienced bee-keeper knows that when bees in any form of hive are taken from their winter quarters, there is a sudden decrease in numbers, from the simple fact that many of them are old and ready to die at any hour from sheer old age; but having been shut up all winter they live longer than they would in the working season. Then, when taken from their winter quarters and allowed to issue in the open air, many of them never return. But is this the fault of the hive? My experience is that any form of hive, when wintered in a cellar, will lose bees very rapidly when first set out; much more so than a colony that has been wintered on its summer stand. I can account for this in no other way, than that many of the bees have lived to a good old age, and are ready to die soon; and a sudden change in the weather being hard on them any how, weakens them in numbers very fast.

The Langstroth hive could be made deeper very easily without Mr. R.'s patchwork; but would it answer the purpose as well? I have found no other hive from which I can get the same results, in surplus honey, as from the "shallow" Langstroth. Last summer I tried the experiment with a hive with only six inches depth of comb, adding one more frame (*eleven* instead of *ten*.) The result was that I got some six pounds more honey from that hive, than I did from the common Langstroth hive, sitting within four feet of it and the two colonies as near alike in numbers as I could get them. Without doubt the shallow form of hive is best for surplus honey.

Now a few words about wintering bees in the Langstroth hive. Everything considered, I think bees do somewhat better when wintered in a

cellar, provided they be arranged just right. But I have wintered bees very successfully in the Langstroth hive, on their summer stands, in northern Illinois and eastern Indiana. But young colonies that have new comb, should be protected, if wintered on their summer stands.

I hope Mr. Rogers will explain the whys and wherefores, and tell us wherein the Langstroth hive is lacking. B. PUCKETT.

Winchester, Ind, July 20, 1870.

[For the American Bee Journal.]

Letter from Missouri.

MR. EDITOR:—I send you a sample of something that seems to be troubling my bees very much. It is in small scales resembling the wing of some insect.* The bees come in with from three to five sticking to their mouths. It seems to trouble them greatly. I think I could pick up or rather scrape up a pint of it, on the bottom board of some hives.

This section of country is too much subject to extremes for bees. Last year it rained all through May and June, so that the bees could not get out to work; and they did nothing but swarm after that until September. Pollen was plenty, but honey scarce. This spring commenced well, but most of May and up to the 15th of June the weather was too cold for bees to work. Nearly all the fruit blossoms were killed by cold. Wild plums and crab apples did not bloom. We have had no rain for several weeks, and very little since last fall. Everything is parched up, leaving nothing for the bees. I am feeding nearly fifty colonies, and will have to continue doing so until we have rain and flowers begin to bloom again.

I could exchange one little farm here for fifteen hundred acres of mountain land in Pocahontas county, Virginia. Is that a good bee section?†

Too much wind here, even if the pasturage were good. My Italians are doing much better than the native bees.

I sowed the strap-leaved turnip last fall for early pasturage, but none came up this spring. Cold killed them. What kind is best to sow, or what is better? Would it do to sow ten acres in turnips, and mix Alsike clover seed with it?

I have watched nearly every movement a bee can make for the last three years, and read all the bee books I could get. J. K. METCALFE.

Freedom, Mo., July 5, 1870.

* The substance enclosed to us was so crushed and pulverized in the mail that we could not make out what it was, even with the aid of a microscope. At first view it seemed as if minute scales of wax were mingled with it, but none of it melted when exposed to heat. We presume it is of vegetable origin.

† We do not know how bees thrive in the part of Virginia referred to by our correspondent. Probably some of our subscribers in that section could supply the desired information. A large part of Virginia is unquestionably a first-rate bee country, and hardly second-rate in anything else.

What sort of crop to cultivate for early bee pasturage, in a climate as variable and uncertain as that which the writer describes, could only be ascertained by trial and experience. Alsike clover is only suited to a somewhat damp soil, otherwise in good condition. How far south or southwest it can be cultivated with advantage, for bees and cattle, is not yet known. We have no seed for sale—not dealing in seeds, bees, queens, or hives; but contenting ourselves with publishing the American Bee Journal, and striving to make that unsurpassed and unsurpassable.

[For the American Bee Journal.]

How we made a Honey Knife.

Some of our readers will perhaps remember the trouble which we had last season in uncapping cells preparatory to the use of the Honey Extractor. In justice to Mr. Baldridge we will say that the knife which we received from him was found, upon trial, to work very well—much better, in fact, than we expected. Our only trouble with it, was to keep it in cutting order. Still, we find that a knife for this business does not need to be kept so extremely sharp, if it be kept *hot* while in use, by occasionally dipping it in hot water. In *shape* we think this knife about what is wanted.

As *two* knives are found very convenient, one to be heating in the water while the other is in use, we concluded to try our hand at making one and succeeded so admirably that we will give a description of it, and the manner in which it was made.

We first took an old *scythe*—an article which can usually be found on every farm—and, with a cold chisel, cut a piece out of the straightest part, of such length as we wished the knife to be. This was then laid upon a block and cut lengthwise about three-fourths of an inch from the cutting edge. It was now taken and ground down smooth upon the back and ends, and the edge ground off at the ends a little in order to straighten it. It is then fitted into a suitable handle. You thus have a knife of whatever length you choose to make it, which may be ground very thin and will yet hold an edge well. The whole time occupied in making it, need not exceed an hour, provided the assistance of a second person can be had in cutting out and grinding. It will present a much neater appearance than one would think possible when commencing the job, and will I think give perfect satisfaction.

Of course the style will be governed much by the ingenuity of the maker.

Since writing, the above, we have received the August number of the Bee Journal, and in it notice the advertisement of the National Bee Hive Company, of which Mr. Baldridge is Secretary. It says—"no *wrought iron* knives for sale, in fact never *kept* them, nor *sold* them. *Liars* will please to take the hint." Indeed! I sincerely hope they will. Now, in justice to *myself*, I must say a few more words in regard to that knife, which we have already spoken about in this communication. When we received the knife last fall, it was shown to a person whom we thought a competent judge of metal, and was unhesitatingly pronounced—well, anything but *spring-steel*, as it could readily be bent into almost any shape, and would *so remain*. However as its quality was not mentioned before the purchase; and as it has been found, on trial, to work well enough for all practical purposes, when rightly used, I suppose we ought not to have said anything about that part of the transaction. The difference between the "best quality of wrought iron" and the lower classes of steel is so slight that, to separate them, would be like naming the hour that sweet cider becomes

sour. Iron is used in three states; as crude or cast iron, as *steel*, and as wrought iron, the difference only depending on the relative amount of carbon with which the metal is combined—cast iron containing a larger proportion of carbon than steel, and steel more than wrought or malleable iron.

I have nothing whatever against Mr. Baldridge, this being my first dealing with him; and my only excuse for writing as I did (A. B. J., vol V, page 18,) is that, after waiting, and watching the post office, so long as I did, and finally receiving a knife—too late for use—which did not then come up to my expectations, I felt considerably out of humor, and told the whole story, when perhaps I should have kept *mum* and "swallowed" it all, as he had not advertised knives for sale, his reason for not being more prompt, may be that he was obliged to invent and manufacture it, after it was ordered. I have no doubt that parties ordering of him now, will receive knives that will give perfect satisfaction.

I. F. TILLINGHAST.

Factoryville, Pa, Aug. 5, 1870.

[For the American Bee Journal.]

More about the Looking-glass.

On pages 34–5, Vol. VI., of the American Bee Journal, H. Nesbit states that he has tried the looking-glass theory to his satisfaction in *one* instance.

Now, Mr. Editor, I wish to say, in reply, that the glass has been tried three times, this year, to my knowledge, and three swarms of bees secured. The particulars of *one* case will be sufficient to cause most of the Journal's readers to try the experiment, when opportunity offers, whether one that has "*played*" the theory "*out*" will try any more, or not.

An old lady was in her garden, about four o'clock one afternoon, when her attention was arrested by the hum of a swarm of bees, leaving the top of an apple-tree that stood in the garden. The superstitious notion of stopping bees by the music of the cow-bell (peculiar to a certain class) was soon put in practice, but the bees moved on till *somebody* flashed the sun's rays among them, by the aid of a looking-glass. Then, almost instantly, from some cause or another, the bees scattered and some even fell to the ground; but in a few minutes more, all were snugly clustered on another apple-tree, in sight of the one on which a portion of them were first discovered.

Did the queen stop to rest in this case? Perhaps Mr. Nesbit will think she was defective; or would his reply to this be as ambiguous as his language, when he says in one place that there is "no use of your trying to go away, for I will stop you with the looking-glass;" and in another breath, after he had tried and failed, says—"I was rather a sceptic before."

Mr. Editor, he makes me think of an old Dutch lady, with whom I used to be acquainted, that knew how to bake bread and fry meat. You might read her a recipe from some agricultural or other Journal, for making something new and rich, and she would at once go about trying it, "to see if it was good." But, in place of following the directions to the letter, she would use the ingredients in quantities that seemed handiest; and the consequence was that she would make compounds to disagree with the gustatory organs of all hands. The fault was never with the old lady, and she could always tell that it was in the recipe; but in no instance could she be induced to try her hand a second time on the same thing. Perhaps, if Mr. Nesbit will take his looking-glass to the well and invert it, and instead of looking down the well, will look into the glass, he will see differently from the way he did on the other occasion. If he will take a glass large enough (a *piece* will answer the purpose; but it will depend upon how bright the sun shines, and the distance of the bees from the ground, what must be the size of the glass required,) I think he can stop a swarm in every instance.

Before quitting, I will also say that if Mr. Nesbit, or any one else will obtain the "*blackest*" and "*knottiest*" piece of wood, near the size of a quart pot, and secure it by means of a pole or otherwise, surrounded by foliage, in front of the apiary, before natural swarms issue, that by the time the fifth natural swarm is hived, the experiment will have very well paid him for his trouble with the knot. IGNORAMUS.

Sawyersville, N. C., Aug. 12, 1870.

[For the American Bee Journal.]

Bee Humbugs.

Since the introduction of movable comb hives, numerous attempts have been made to palm off on bee-keepers worthless hives and sundry humbugs.

As with other branches of business, so with bee-culture; it has its proficients, amateurs, novices, and pretenders. Generally, it is with the two last-mentioned classes that worthless hives and various humbugs originate. The novice is often suddenly attacked with that disease known as "bee on the brain," and ignorantly but innocently fancies he has mastered the whole science of bee-culture, and is therefore prepared to astonish the world by producing a bee hive that will supplant all its predecessors. Now, with many, to think is to act. Hence, yearly, there are introduced to the public several "best hives in the world," which, however, prove to be either bungling attempts at an imitation of some good hive, or a worthless throwing together of timber, embracing in its construction not one scientific principle, but often many features directly opposed to the nature and wants of the bees. Their fanciful shape, novel construction, and the many advantages they are said to possess, often cause a number of them to be sold to unsuspecting bee-keepers, who are not educated in the science of bee-culture. The country is full of such worthless trash, and parties often pay more than they would require to do for really good hives, the reputation of which has been established for years—hives constructed by those well acquainted with bee-culture, and who are hence qualified to construct a hive adapted in every feature to the wants of the bee.

The other class, whom I have styled pretenders, are generally unscrupulous persons, who do not hesitate at anything by which they can bring the "dimes" to their pockets. It is with this class that "bee humbugs" generally originate. Having a slight smattering of knowledge, they make great pretensions, and tell wonderful stories about bees—what strange things they have known bees to do; how one swarm went away, because the owner quarrelled with his wife; another because a child was buried, and the owner failed to whisper it in the hive; while a third was so particular, that it would not stay in the hive, because there was a rusty nail in sight! In this way they arouse the curiosity of the uneducated bee-keeper, who is soon ready to swallow all they have to say. They then come forward with their pretensions to superior knowledge. They can do this or that with bees. They have some wonderful secrets, and for a "V" (five dollars) they can tell you how to take the bees out of a box-hive, take their honey, put them back again, and they shall be all right "in the spring." They have also got a curious compound, a peculiar drug, with which they can charm the bees so that they will not sting, price "only fifty cents a bottle;" and the recipe to make it only another "V." Thus the honest and unsuspecting bee-keeper is victimized, while the swindling pretender "feathers his nest."

The following extract from a letter of inquiry, has called forth these remarks:

"During the past season, the management of bees has been taught in a secret school, and one of the things taught is the art of drawing bees from a tree a distance of two miles, even though it may not be known where they are located. As one of the students is preparing to sally out on the public, I thought I would write to you, for your opinion."

A person possessed of such power as this would be likely to surround himself with a large number of swarms in a very short time, if he performed his operations in some neighborhoods where hundreds of swarms are kept within a circle of two miles. He would certainly be an exceedingly dangerous person to have about, unless strictly honest, as he might draw off and steal all the bees. Perhaps his secret incantations have no attractions for bees that live in a hive; and, I may say and, for bees that live in a tree! Allow me to say to my bee-keeping friends that all the bee drugs or bee charms are bee humbugs. If any person is pretending to teach or to do what is stated above, he is either a knave or a fool, perhaps both.

To say the least, all such persons should be arrested, for obtaining money under false pretences. If bee-keepers would be safe, let them take a reliable Bee Journal or agricultural paper, where they will find such impositions exposed; and in purchasing hives let them select such as the experience of years has proved to be good.

J. H. THOMAS.

Brooklin, Ontario,

I never use a hive, the main apartment of which holds less than a bushel.—*Langstroth.*

[For the American Bee Journal.]

Proper Requisites of Hives and Movable Frames.

MR. EDITOR:—There seems to be no subject connected with bee-culture so badly mixed up, as the above. One approves of a low and long form of hive and frames, and another of a short and deep form. Now I have seen and used nearly all styles in use, but never saw a frame hive but what was too deep for summer use, or too shallow for winter.

It seems to me we have been straining at a gnat and trying to swallow a camel. I think a frame in the clear, six or seven inches deep and eleven or twelve inches long is what the practical bee-keeper needs. But for the careless and indifferent, fixed top bars are too good.

Perhaps few if any have experimented with and used more different styles of hive than we have. Being a mechanic, and always having lumber and tools at hand, we have experimented too much for our own benefit. We have patented (like many others) one hive costing us $100; and have never realized a dime in return. But all right; I suppose the greenbacks are moving.

Now, Mr. Editor, I believe that the one thousand and one who are pocketing money for improvements in hives, would be just as honest and make more money, by picking up the farmer's box-hive, putting the Langstroth frames in, and teaching people how to use them properly—selling the same on commission for Mr. Langstroth or his agents.

But we must return to the sectional hive. Has any one ever used such a hive? If so we have never heard of it. We use two sections deep in winter, and from one to four in summer. We make our case twelve inches wide, using eight frames in the brood sections, and seven in the third and fourth sections, in which we get the greatest possible amount stored, in good shape for the table or market. Mr. Thomas, or any one else who thinks he has a hive that will offer so many advantages, as the simple sectional box, with Langstroth's frames in them, had best bring such hive out this way; and I will agree to sell them as fast as forty men can turn them out.

We have omitted to mention many little points, in the arrangement of the case and frames, such as beveling to prevent propolis, securing straight combs, &c, but will do so in a future article, if requested.

CHARLES HASTINGS.

Dowagiac, Mich.

All necessary arrangements and preparations for properly wintering bees, in any kind of hive, should be fully completed in the month of October.

Let me strongly advise the incorrigibly careless to have nothing to do with bees, either on my plan of management, *or any other;* for they will find both time and money almost certainly thrown away.—*Langstroth.*

THE AMERICAN BEE JOURNAL.

Washington, Sept., 1870.

The remarks on queen raising, by the Rev. Mr. Briggs, in our last issue, appear to be considered by some as aimed personally at Mr. Alley, of Wenham, Mass. We did not so regard them. Mr. Briggs' object seemed to us to be very different, and one in which queen breeders in general have quite as much interest as queen purchasers. Bee breeding, as a science, is yet in its infancy—not less so in Europe than here; but is evidently engaging the attention of the best and most experienced apiarians, and has already led to some highly interesting discussions in the German Journals and Conventions. Of these we shall, in due season, take proper notice—we give, in this number of the Journal, several communications referring to Mr. Briggs' article, and shall probably have one from him in explanation.

☞ The March number of the American Bee Journal contained a call for a meeting of the Michigan Bee-keepers' Association, to be held at Lansing, on the 23d and 24th of that month.—Bee-keepers from other States and the British Provinces were invited to attend that meeting, as it was *proposed then to make arrangements for holding a* NATIONAL BEE-KEEPERS' CONVENTION. The Association met accordingly, and it was resolved to hold a *National Convention* at Indianapolis, (Ind.) on the 11th and 12th instant, but the time was subsequently changed to the 21st and 22d of December next, as better suiting the convenience of bee-keepers. The *place* designated seems now, however, for some reason, to have become objectionable to certain parties who probably have "axes to grind." They are now laboring hard to effect a change; but we presume the effort will fail, as we are assured from various quarters that the Convention will be held at Indianapolis.

A patent has recently been granted for a method of excluding bee-moths from hives by means of a long lever operated by a hen-roost. The inventor claims "a combination of a vibrating roost or perch for fowls with the slides or doors of one or more bee hives, when so constructed and arranged that the weight of the fowls upon the roost shall close the hives, and their removal from the roost shall open the doors." How this ingenious contrivance came to be patented at this late day, we do not know; but certainly it is neither, "new" nor "useful." The same thing was tried and abandoned many years ago, as will be seen by reference to Langstroth's "*Hive and Honey Bee*," page 263, first edition. Possibly there is some new "modification" or some novel "combination" of material (chickens included), on which the claim to a patent is based; but unfortunately, no modification or combination can ever enable him who employs this contrivance to circumvent the moths thereby.

When a colony in an apiary is found to be queenless, and has been so till all the brood has matured, it will generally be found difficult to get the bees to raise a queen from brood inserted, or even to accept and cherish a sealed queen cell. Repeated trials are usually necessary, and when successful the population has generally so dwindled, before the new generation attains the working age, that the colony is of little value, especially late in the season. The better mode is to introduce at once a fertile prolific queen from some populous colony, and let the latter do the queen raising; unless we have fertile queens in reserve in nuclei. With the transferred queen, several combs of brood taken from other strong colonies, should, if possible, be given to the one that has been queenless. The desired object will thus be more speedily attained, and frequently with benefit to the colonies drawn on.

The European Sparrow.

"A large number of German sparrows, have been imported and placed in the vineyards in the vicinity of Davenport, Iowa." So the newspapers inform us—the object, we presume, being the destruction of caterpillars. We fear, however, that the grape growers there have made a capital mistake, and are likely to have an easy time annually hereafter, when gathering the vintage.

It has been customary to charge the bees with damaging the grape crop, but it appears that in Germany this sparrow is the real offender. The Rev. Mr. Stern, an aged and well known bee-keeper, residing at Wessenburg in Lower Austria, writing to the Bienenzeitung about this alleged malfeasance of the bees, says—"I have lived more than thirty years in a village of three thousand inhabitants, most of whom derive their support from grape culture. Besides their vineyards, they have numerous trellises of vines at their houses, and there are several apiaries in the village. I have myself an arbor of vines, 180 feet in length, within twenty-five feet of my apiary. Now it has happened for many years that I did not get a single bunch of grapes, undamaged, from any vine in this arbor, and the other grape-growers in my neighborhood fared no better. Berries torn open were annually to be seen, and I have seen bees on *such* berries often—not indeed by 'myriads' nor yet by thousands, or hundreds, nor even by fifties, but only here and there a solitary one quietly sipping of the extruding juice. I have killed hundreds of *hornets* in the act of tearing open the berries, and thousands of wasps busy at the same work; but *I have never seen a bee so engaged.* But, what flies and bees are wholly incapable of doing, and what wasps and

hornets do only in part and occasionally, *is really the work of the* SPARROW, which, because its habits have been little observed or studied, continues to be held in high estimation in some districts. Even a small number of these birds can, in a few days, do exceedingly great injury in a vineyard, at the time when the ripening grapes are becoming mellow. They then peck open berry after berry, as though in sport, sip a little of the juice occasionally, and flitting away to some other cluster incessantly repeat the damaging process. I have witnessed this hundreds of times; and seen them do the work so effectually that, year after year, I have not obtained one undamaged cluster from my arbor.—This cunning sparrow knows, too, how to avoid traps and springes, and soon familiarizes himself with the most elaborate fantastic scarecrow set up *in terrorem*, acting apparently in derision and contempt of the baffled and mortified grape-grower."

Forty years ago, an American ornithologist, speaking of this species of sparrow and the injury done by it to grain fields in Europe, said—"*Fortunately we are free from this pest on this side of the Atlantic.*" Now we import them, and boast of it!

CORRESPONDENCE OF THE BEE JOURNAL.

TYRONE, ONTARIO, July 16.—Bees are doing very well here this year. I have got forty pounds surplus honey from some of my hives already.—J. MCLAUGHLIN.

WASHINGTON HARBOR, WIS., July 16.—This has been the best honey season, thus far, seen by me. A second swarm hived on Tuesday June 21st, on Wednesday night the 29th, weighed twenty-five pounds, besides having yielded thirty-eight pounds ten ounces taken by honey machine in eight days. I had given the swarm seven old combs and one empty frame, placed it on the old stand, and removed the old stock to a new place. On the 25th and 26th, it gained twenty-one pounds six ounces in two days, on raspberry and clover blossoms. This is the best day's work and week's work I have noticed. The queen began to lay on Monday the 27th, so they had no brood to nurse.

The next fourteen days they lost four pounds each. Basswood began to bloom July 13th. One hive gained fifteen pounds in four days; and in the next ten days I expect my five hives to gain thirty to forty pounds each, which closes the honey season here. The last two years the hives lost more in weight from the 1st of August to the 1st of November, than in five months in the cellar to 1st of April.—H. D. MINER.

BORODINO, N. Y., July 16.—I think that you publish by far the best Bee Journal.

GANSEVOORT, N. Y., July 20.—I think the American Bee Journal worthy of every bee-keeper's attention, whether he keeps one stand or a hundred.

I would like to learn from some more experienced bee-keepers than myself, the best way to set bees for summer; whether exposed to the sun, in the shade of trees, or under a shelter made of boards.

It has been very dry here all summer, and flowers have nearly all dried up. Bees have swarmed but little and have not stored much cap honey. Box hives are mostly used here, though there are some others of different kinds.—THOMAS PIERCE.

RICH VALLEY, MINN., July 20.—The season for bees has been fair thus far; but I do not think this location so well adapted to the business as most of the States south.—L. M. LINDLEY.

RIDGEWAY, MICH., July 21.—I have one hundred and thirty colonies in box hives, somewhat like T. B. Miner's equilateral hive. I shall have about twenty hundred pounds of honey for sale this season.

I cannot learn that it would be wise for me to adopt the movable comb hive, as I have five hundred dollars invested in box hives, and have been successful with them. So far as I can learn I have the largest apiary in Michigan, and have perhaps, in the last thirteen years sold more surplus honey than any apiarian using box hives, or perhaps any other kind of hive. Honey sells for twenty to twenty-five cents per pound.—J. F. TEMPLE.

AUGUSTA, ME., July 22.—This is a very dry season with us. Bees will not give much surplus honey; and in some cases old stocks will not get honey enough to winter.—H. B. CONEY.

GEBHARTSBURG, PA., July 22.—This has been a remarkable honey season, and also for swarming. I practice artificial swarming, yet in spite of all precautions I got two natural swarms, and that too without the least preparation by the bees, for no queen cells had been started. This is contrary to the books and my previous experience.—W. BAKER.

HAMILTON, ILL., July 24.—No Bee Journal either on the old continent or the new, can vie with the American Bee Journal.—C. DADANT.

NIAGARA, ONTARIO, July 30.—We have had a good honey season, through June and part of July, from white clover; but I do not think bees are doing much now. I lost some honey for want of shade. The combs melted, though in double boxes.—F. G. NASH.

EXCELSIOR, MINN., July 30.—Bees have done very well here, until the middle of this month, the season having been an unusually fine one, up to that time. Since then, we have had a change of weather and bees are doing nothing. The season has been a very dry and hot one, thus indicating—not for the first time—that dry warm seasons are the best for honey in this latitude.—J. W. MURRAY.

EAST FAIRFIELD, OHIO.—Bees are doing very nicely here this year. I should like to see your valuable Journal have a wide circulation, and if it were carefully read, I think bee-keepers would generally do well.—J. HEUSTIS.

SPRINGFIELD, ILL., August 4.—Our pets have done nothing since 20th of June, but eat up what they saved before. The "heated term" has been unusually severe and long. We look for better things, now that the weather has changed and vegetation begins to revive. This morning one of my early June swarms (Italian) threw off a very large swarm. On examining the hive, I was not a little interested and surprised to find five beautiful young queens, evidently stretching their legs (my queens have legs) for the first time. Three went "where the woodbine twineth." I had use for the other two. Is not the simultaneous hatching of so great a number unusual?—W. L. GROSS.

NORTH TUNBRIDGE, VT., August 7.—We have had a very great season here for honey, but not as much swarming as usual. My bees have given me a profit of twenty-four dollars per swarm, in box honey.—D. C. HUNT.

CLEVELAND, OHIO, August 8.—I think we have a very poor locality for bees—the land being too flat, wet, and cold. No honey in the white clover blossoms this year.—R. HONEY.

VIRDEN, ILLS., August 8.—We never had so good a season of white clover, in my recollection, as the past has been; but it has been so dry since that the bees have done nothing since the 1st of July. Our fall pasturage too will be short, on account of the drouth. Last year I got all my surplus honey after this time, mostly from Spanish needles and red clover. There will be very little of either this fall, consequently I do not expect much more surplus honey. I have increased my bees from twenty-five colonies to sixty-five.—J. L. PEABODY.

PAW PAW, MICH., August 8.—The ever welcome American Bee Journal was received as usual. It contains a variety of reading matter from all sources, and it sounds like glad tidings unto all people. I have only one fault to find—it should come on the first and fifteenth of each month. How can that desirable end be accomplished? Will not our brother bee-keepers co-operate to bring it about? Bees have done finely here, this season.—A. F. MOON.

RIPON, WIS., August 8.—The Journal comes to hand promptly every month, accept my thanks for the effort you make to furnish us with a first class paper.—R. DART.

TOWANDA, ILLS., August 9.—The season for honey in this section of the country has not been the best or the poorest. Bees on the prairies did not swarm much, and there was great complaint of their leaving for the timber. One man here found fourteen (14) bee trees in one grove. But in the timbered portion of the country, the bees swarmed wide and gathered the usual amount of honey, namely fifteen to twenty-five pounds per stand.

Increased attention is being given to the culture of bees here, and I hope I shall be able to send you a much larger list of subscribers for your *excellent* Journal.

An accident occurred in the apiary of Mr. Cyrus Jones, in this township, that would probably come under the head of "Anger of Bees." While his hired man with the team, was hauling some old lumber from the yard, the horses became frightened and ran directly amongt he bees, knocking over seven stands and becoming fastened for a short time in a cherry tree. The bees swarmed out not only from those stands that were run over; but from most of the others (there being some twenty stands in all) stinging the horses terribly. The horses became frantic, rearing and plunging, broke loose from the tree, and ran into the next lot, breaking the wagon badly. One of them died in about three hours, and the other in the course of the day. While they were fastened in the tree, one of the men in throwing water on the horses, to *cool* I suppose the anger of the bees, lost his hat. The bees lighting on him stung his head and face so badly that his life was in danger. The horses were stung in their ears, nostrils, and bodies so badly that by taking a corn knife and scraping their sides, you could draw out thousands of stings. Mr. Jones estimates his loss at about five hundred (500) dollars. This accident occurred last spring. What would have been the best to do, in such a case?—S. C. WARE.

WENHAM, MASS., August 11.—The weather has been very dry and hot all summer; but during the last few days we have had plenty of rain, though the air is not cooler.—H. ALLEY.

LEXINGTON, KY., August 12.—The July number of the Journal failed to come. I began to fear you had ceased to publish the Journal, as I did not receive one for so long. *That* I hope will never happen, as long as it is doing the good to the bee-keeping public, that it now is. Long life to you and it.—DR. J. DILLARD.

LISLE, N. Y., August 12.—As your correspondents commenced boasting early, I should like to hear from them again, to learn whether the drouth affected them as much as it has us, in this part of the country. I think bees never did better than they did during raspberry time. It then became so dry that they have not got much since, till now that they are working on buckwheat freely. From one double Langstroth hive we have take seventeen full six pound boxes, and the bees are working in six more. They filled both hives themselves, except six frames that were transferred. I think this is doing very well, as it will make eighty pounds in frames more than they need to winter on. We are sure of thirty-six pounds more. We have a good many young swarms that have already over one hundred pounds of box honey taken off. I will give you, this fall, the total result. I think it will convince people that bee-keeping pays. —H. S. WELLS.

CAMPBELL'S CROSS, ONTARIO, August 12.—I have the first four volumes of American Bee Journal bound in two, and would not take five times their cost if I could not get them again. I would freely pay double to get them twice a month. It would pay to get them, if a person has only one hive, or no bees at all.

Bees have done well, in this section, this season. They swarmed two weeks earlier than usual. We have plenty of swarms and surplus honey. Second and even some third swarms will gather honey enough to winter on, My bees are all in frame hives. The Thomas hive is all the go in Ontario. My bees are nearly all Italians, bred from the stocks of J. H. Thomas, Brooklin, Ontario, and Henry Alley, Wenham, Mass.,—both of whom I could recommend, their stock of Italians being very pure and well marked.—H. LIPSETT.

GNADENHUTTEN, OHIO, August 15.—We have had a prosperous season, this summer, both for honey and swarms. The weather was good from the time the fruit trees blossomed until the close of the white clover blossoms. It is refreshing to the drooping spirit to have a season of plenty after such poor seasons as the previous two were. Our success would be better if we had some reliable plants to supply honey, after the white clover is past. That is now our main dependance, and when it is a partial failure our late swarms cannot gather sufficient store to last them over winter; and buckwheat is at best an uncertain source for honey.

As there is considerable rivalry among inventors about patent hives, and divers contrivances are recommended to bee-keepers as the *ne plus ultra* of perfection, I will state that some years ago I invented a side-opening leaf hive, with a sliding bottom board. Either front or rear side is a door, through which the bottom board slides. At the opposite end of the hive from the door, in the side of the hive, is a frame or yoke, fastened to the sides of the bottom-board and reaching half way up the side of the hive. On top of said yoke are clasps fastened loosely to the yoke with wire rivets. These clasps hold the frames by means of wire hooks driven into the frames and hooking over a shoulder on top of the clasps. The clasps move sideways, and allow the frames to be moved sideways, like the leaves of a book, and also to be taken off. The part of the hive with a hook in, has a piece of wire driven in at the bottom, to serve as a pivot, and works in a gimlet hole in the bottom board. In operating with the bees in, the door is opened and the fastenings made by the bees are to be cut loose; then the bottom board with the frames is drawn out of the hive. It is perhaps as good a side-opening hive as any, with the additional good quality that there is no patent on it. Any one is at liberty to use the invention. For myself, I prefer top opening hives, as more convenient.—S. LUETHI.

[For the American Bee Journal.]

Death of James T. Langstroth.

MR. EDITOR:—I desire to offer, through the medium of the American Bee Journal, a slight tribute of respect to the memory of JAMES T. LANGSTROTH, the only son of Rev. L. L. Langstroth, whose death was announced in the July number of the Journal.

Mr. James T. Langstroth was well known to most of the leading bee-keepers of the country, either personally, or through business correspondence relating to bee-culture, during the last ten years; and certainly no young man could have more completely won the confidence of all with whom he came in contact, than he has done, by his intelligence, modesty, strict integrity, promptness, candor, and perfect manliness in all his transactions. Aside from bee-culture, he took an active interest in, and was generally at the head of, all patriotic, charitable, or social organizations in his immediate neighborhood. In fact, he was the leading young man in the town in which he lived. But above all his other excellent qualities, stands, in my estimation, his unselfish and untiring devotion to his aged, infirm, and dependent parents. Next to the care of his own little family, his father's, mother's, and sister's comfort, wants, and wishes, were uppermost in his mind. Although suffering many months from the insidious approach of consumption, yet fraternal and filial devotion nerved his wearied spirits to active labor, almost to the last day of his life. I saw him on his return home from his office for the last time, with glazed eye and haggard cheek, yet full of hope and plans for the future, after a few days of rest and recreation.—But his earthly career is ended, and that father's only support is taken away. Who will take that son's place? Who *should* take his place, unless it be the bee-keepers of America? Brother bee-keepers, laying aside all prejudice, and all minor points of difference, and detracting nothing from any man's merits, are we not indebted to the Rev. Mr. Langstroth, more than to any other person for a part of our success in our noble pursuit or pastime?

There is one point, I believe on which the bee-keepers of the country, and even all patentees of bee hives, of *whatever kind*, agree—namely, that Mr. Langstroth *introduced* movable frame hives into this country. Admitting for a moment, that that was all he ever did for the benefit of bee-keepers, does not even that act deserve some compensation from our hands? I think it does. Again, Mr. Langstroth was among the very first, and but for an accident would have been the first to introduce into this country the Italian bee. He has imported them every year since, and has every year furnished the leading queen breeders of this country with their choicest queens to breed from. Do we owe him nothing for this? Again, he was the first to introduce into this country the Egyptian bee, the merits of which are not yet fully developed, but the importance of which will in time come to be duly appreciated. And, lastly Mr. Langstroth, was among the first to introduce to the notice of the bee-keepers of America, the invaluable Honey Extractor. Does he deserve nothing at our hands for this? Gentlemen, talk as you will, Mr. Langstroth has been the pioneer bee-keeper of this country for the last quarter of a century; and there is a fearful account against us, and in his favor, that I fear we shall not be able fully to pay. But we can do something. We can make him comfortable for the balance of his days, and still be vastly enriched ourselves through his labors.

If we are so indebted can we not, in part, liquidate that indebtedness *now?* Can we not make up our minds to send him, *at once*, some substantial token of our appreciation of his labors of a lifetime for the advancement of bee-culture? He and his family, and his son's family now dependent on him, need all that is rightfully due to them. If you feel that you owe him five, ten, twenty, or a hundred dollars, don't wait for somebody else to begin or to join with you; but send a check or a post-office order for the amount directly to his address. If you have honestly paid him his price for the right to use his invention, don't let that entirely satisfy you. Ask yourself whether you have not made too good a bargain, and whether you ought not to restore to him, to-day, a part of your profits? Don't stop to inquire whether Mr. Langstroth owns territory where you live, send him a five dollar or a ten dollar bill at once, and pay the rightful or legal owner of the territory, as soon as you find him out. You could better afford to pay five dollars royalty on every movable frame hive you use, than use the old box hive. This deferred payment, let us call it, made *now* will do much good, and will give you a clear conscience, no matter whose patent you are using, for they are all modifications of the Langstroth hive, although they are not all infringements. Brother bee-keepers, don't wait for each other to respond, but send at once to this address—Rev. L. L. Langstroth, Oxford, Butler, County, Ohio; and may heaven prosper you for so doing.

R. BICKFORD.

Seneca Falls, N. Y. Aug. 1, 1870.

P. S.—I have written this without the consent or knowledge of Mr. Langstroth, or his family, simply because, knowing the circumstances, I felt it a duty and a privilege to speak—R. B.

The Egyptian beehives are made of coal dust and clay, which being well blended together, the mixture is formed into a hollow cylinder about a span in diameter and from four to six feet high. This is dried in the sun, and becomes so hard that it may be handled at pleasure.—*Domestic Encyclopædia.*

Whoever intends to erect an apiary should purchase colonies towards the close of the year, and only such as are full of combs and stocked with a sufficient number of bees should be chosen. To ascertain the age of the hives, it should be remarked that the combs of the last season are white, while those of former years are dark yellow. Where the combs are black, the hive should be rejected, as too old and liable to the attack of vermin.—DR. WILLICH.

The Honey Crop.

The enormous quantities of honey annually produced may be comparatively estimated by the collateral production of beeswax, which it exceeds by at least ten to one. When we reflect upon what masses of the latter are consumed in the rites of the Roman Catholic and the Greek Churches, throughout the many and large churches where those religions prevail, we shall be able to form a general estimate of the extensiveness and universality of the cultivation of bees. Nor are these the only uses to which wax is applied, and the collective computation of its consumption will show that bees abound in numbers almost transcending belief.

ITALIAN QUEEN BEES.

My patrons, and all others who wish to procure Italian Queens of the highest type, can be supplied at my apiary at very low figures. Those wishing to purchase to sell again will be liberally dealt with. Send for circular.

W. W. CARY,
Coleraine, Franklin Co., Mass.

March, 1870—6ms.

AN UNPARALLELED OFFER!

All the unsold Territory for

J. H. THOMAS'

Improved Bee Hive,

PATENTED JULY 2, 1867,

For sale in State Rights at less than one quarter its value.

The following States are unsold, and will be disposed of, gentlemen, at your own liberal offers, viz. :

Maine, New Hampshire, Vermont, Massachussetts, Connecticut, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Kentucky, Tennessee, Georgia, Alabama, Mississippi, Arkansas, Louisiana, Texas, and all the Territories.

Don't be afraid to make an offer, as it must be sold : All letters must be postpaid (6 cents), and addressed to

J. H THOMAS,
Brooklin, Ontario, Canada.

*** No hives for sale.

July, 1870—4t.

ARTIFICIAL HONEY,

Pure and delicious. How to make it easy and cheap, **sent free.**

Address,

G. G. BERRY,
North Stafford, N. H.

Sept. 1870.—3ms.

Italian Queen Bees.

I will sell Italian Queen Bees the present season, at the following prices.

For one queen sent in June by mail, $2.50.

After July 1st, three (3) queens for $7; five for $10.

All queens warranted pure and to be PROLIFIC, when proved otherwise, the money will be refunded, or other queens sent.

Safe arrival by mail or express, guaranteed; and satisfaction given in all cases.

One of my new style Langstroth Hives, with 36 three pound surplus boxes complete, $9. For a full description of this hive, see American Bee Journal for July, page 8.

I shall have for sale this fall 20 stocks of ITALIAN BEES, which will contain my CHOICEST ITALIAN QUEENS. These Bees are in good Langstroth hives, and fourteen three pound glass boxes will be shipped with each hive, price $20.

Orders can be sent in now, the money to be sent before October 1st, as the weather will be cool enough at that time to ship the bees.

Address,

H. ALLEY,
Wenham, Essex Co., Mass.

August, 1870.

FOR SALE,

Seed of the Rocky Mountain Bee Plant,

POLANISIA PURPUREA,

Producing plentiful pasturage for bees, and large quantities of nice honey.

Price per pound, per mail, $1.00
" half pound, " " 50

Address,

ALFRED GREEN,
P. O. Box 342 Amesbury, Mass.

Sept. 1870—2ms.

THE BEST IS THE CHEAPEST!

IMPROVED HONEY EXTRACTORS,

Made of metal and as cheap as the cheapest; as strong and durable as any in the market; either with or without gearing.

A CAST-STEEL HONEY KNIFE

is furnished with each machine.

Address,

R. R. MURPHY,
Fulton, Whiteside Co. Ills.

Sept. 1870.—2ms.

PRICES CURRENT FOR 1870,

OF

ITALIAN QUEEN BEES,

AT THE APICULTURAL INSTITUTE, IN

ROVEREDO, CANTON OF GRISONS,

SWITZERLAND.

---

1. For an Italian queen bee, accompanied by a sufficient number of workers, and provisions for a thirty days' journey, (packing included, and freight to Bremen, Hamburg, Havre or Ostend prepaid,) if sent in April, 13 francs; in May, 1 francs; in June, 11 francs; in July, 10 francs; in August, 9 francs; in September, 8 francs; and in October, 7 francs.

2. These prices are for choice, select queens; and all queens not of marked fertility, beauty and size, will be sold in the period from June 1st to October 1st, at half the prices above stated.

3. Queens will be sent only in parcels of eight, twelve, or twenty-four.

4. Orders for twenty-four queens, in one parcel, will be entitled to a deduction of ten per cent. From the above prices.

5. When desired, freight from Bremen to New York, inclusive of entrance duties, will be prepaid; but in such case, one franc additional will be charged for each queen sent.

6. The price will be regulated by the day the queens are sent off from here for shipment.

7 The price must accompany the order.

8. Orders may be sent either direct to th undersigned, or to his authorized agent, a Bremerhaven—Mr. George Dauwes.

9. Queens sent go at the risk of the party ordering them. Careful packing guaranteed.

10. Postage on letters and remittances to be prepaid.

11. Persons ordering queens will be notified in advance of the time when they will be sent from Roveredo.

12. As the Italian bee alone is native in this valley (Adige,) is of special beauty, and is cultivated with great skill and success, none but pure queens can be sent; and customers may be confidently assured that every order, even the most extensive, can be filled within ten days after it is received here, as the number of colonies devoted to queen raising is very large.

It will be proper for persons ordering queens to arrange with an agent, in New York or Baltimore, to receive and forward the bees immediately on their arrival there, that they be not detained in the custom house.

EDWARD UHLE, Director,

Roveredo, Canton Grisons, Italian Switzerland.

February, 1870.

THE GREAT MEDICAL DISCOVERY!

Dr. WALKER'S CALIFORNIA

VINEGAR BITTERS.

Hundreds of Thousands

Bear testimony to their wonderful Curative Effects.

WHAT ARE THEY?

THEY ARE NOT A VILE

FANCY DRINK,

Made of **Poor Rum, Whiskey, Proof Spirits, and Refuse Liquors,** doctored, spiced, and sweetened to please the taste, called "Tonics" "Appetizers," "Restorers," &c., that lead th tippler on to drunkenness and ruin, but are a true Medicine, **made from the Native Roots and Herbs of California, free from all Alcoholic Stimulants.** They are the **GREAT BLOOD-PURIFIER and LIFE-GIVING PRINCIPLE,** a perfect Renovator and Invigorator of the System, carrying off all poisonous matter, and restoring the blood to a healthy condition. No person can take these Bitters, according to directions, and remain long unwell.

$100 will be given for an incurable case, providing the bones are not destroyed by mineral poisons or other means, and the vital organs wasted bevond the point of repair.

For Inflammatory and Chronic Rheumatism, and Gout, Dyspepsia, or Indigestion, Bilious, Remittent, and Intermittent Fevers, Diseases of the Blood, Liver, Kidneys, and Bladder, these **Bitters** have been most successful. **Such Diseases** are caused by **Vitiated Blood,** which is generally produced by derangement of the **Digestive Organs.**

FOR SKIN DISEASES,—Eruptions, Tetter, Salt Rheum, Blotches, Spots, Pimples, Pustules, Boils, Carbuncles, Ring-Worms, Scald Head, Sore Eyes, Erysipelas, Itch, Scurfs, Discolorations of the Skin, Humors and Diseases of the Skin, of whatever name or nature, are literally dug up and carried out of the system in a short time by the use of these Bitters. One bottle in such cases will convince the most incredulous of their curative effects.

DYSPEPSIA OR INDIGESTION, Headache, Pain in the Shoulders, Coughs, Tightness of the Chest, Dizziness, Sour Stomach, Bad Taste in the Mouth, Bilious Attacks, Palpitation of the Heart, Copious Discharges of Urine, Pain in the regions of the Kidneys, and a hundred other painful symptoms, which are the offsprings of Dyspepsia, are cured by these Bitters.

Cleanse the Vitiated Blood whenever you find its impurities bursting through the skin in Pimples, Eruptions, or Sores; cleanse it when you find it obstructed and sluggish in the veins; cleanse it when it is foul, and your feelings will tell you when. Keep the blood pure and the health of the system will follow.

PIN, TAPE, and other WORMS, lurking in the system of so many thousands, are effectually destroyed and removed.

For full directions, read carefully the circular around each bottle, printed in four languages—English, German, French, and Spanish.

J. WALKER, Proprietor, 32 & 34 Commerce Street, New York. R. H. McDONALD & Co., Druggists, and Gen. Agents, San Francisco, California, 32 & 34 Commerce St. N.Y.

☞SOLD BY ALL DRUGGISTS AND DEALERS.

They are a Gentle Purgative as well as a Tonic, possessing, also, the peculiar merit of acting as a powerful agent in relieving Congestion or Inflammation of the Liver, and all the Visceral Organs. These Bitters are not a gilded pill, to delight the eye or please the fancy, but a medical preparation never producing injury.

For Female Complaints, Dyspepsia, Liver Diseases whether in young or old, married or single, at the dawn of womanhood or the turn of life, these Tonic Bitters display so decided an influence that a marked improvement is soon perceptible in the health of the patient; they are a perfect Renovator of the System.